Distance Learning During Covid-19 Pandemic: Obstacles Faced Nursing Students and Its Impact on Their Attitudes

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Abstract: Background: The 2019 coronavirus disease (COVID-19) has had a significant impact on a number of aspects of human life, during the outbreak, nursing students faced many obstacles and it had impacted their attitudes, the purposes of the study are to assess obstacles that faced nursing students regarding distance learning. In addition to determine its impact on their attitudes toward distance learning during COVID-19 in Saudi Arabia.

Methodology: The descriptive cross-sectional design investigated undergraduate nursing students. Survey was conducted by distributing an online self- administrated questionnaire to undergraduate nurses from 29 different nursing colleges all over KSA. Their Attitudes between October to November 2020 using online Google-based data collecting forms.

Results: The results of the study shows that the total mean of attitude toward E-learning was (M±SD: 2.45±0.46). Additionally, it shows that less than half (49.3%) was agreed of opinion about E-learning and less than two thirds (61.5%) was agreed regarding total attitude toward E-learning. Also, it shows that less than half (49.3%) was agreed infrastructure and technology obstacles, and more than half (59.6%) was agreed regarding total E-learning obstacles

Conclusion: The current study looks at how nursing students' attitudes were affected by the difficulties they encountered in an online learning environment. The student, the technology, and the instructors are some of these obstacles.

Recommendations: Educate nursing students on how to use online learning, and solve problems related to the learning environment, technology infrastructure, technical assistance, and time management; All this will contribute to reducing difficulties for students and overcome the obstacles for E-learning.

Keywords: distance learning during COVID-19, E-learning, nursing students, learning environment, technology infrastructure.

1. INTRODUCTION

The COVID-19 pandemic's growth has led a temporary closure of schools and universities all over the world in order to stop its spread and maintain safe social or physical separation, affecting more than a billion children and students worldwide. Innovation plays a crucial role in creating fertile openings for change in teaching and learning at this time of crises. **[Guillasper et al., 2020]**.

Since the COVID-19 pandemic was identified, it has had an effect on educational systems worldwide, resulting in the nearly total shutdown of schools, colleges, and institutions. **[Ilankoon et al., 2020]**. The switch to distance education (DE) was implemented immediately after the COVID-19 pandemic's effects spread swiftly over the world. **[Karaaslan et al., 2021]**.

E-learning, or online learning, is part of the global trend of education delivery becoming more flexible. **[Oducado and Soriano, 2021]** Nations are actively looking for alternatives to the present educational system due to pandemics. **[AlOsta and Khalaf, 2021].** Faculty had to hurry to implement online learning, and students had to adapt to this new strategy. **[Natarajan and Joseph, 2021].** Whereas unanticipated developments prompted online classrooms **[Park and Seo, 2022].**

The outbreak made things difficult for nursing instructors, many of whom had little prior experience teaching online. The teachers quickly learned how to use modern technologies in the classroom (e.g., Zoom) **[Fitzgerald and Konrad, 2020]**. This health crisis therefore affects academic institutions, universities, and entire systems in addition to clinical leaders and frontline staff. Nursing schools have a specific responsibility to raise the next generation of caregivers. **[Cengiz et al., 2022]**. Training is not an exception to how the epidemic has affected social collaboration in general. **[Subedi et al., 2020]**. We thereby advance current understanding regarding the psychological and behavioral elements of nursing students' coping in crisis settings while learning during the COVID-19 pandemic. **[Lovrić et al., 2020]**.

Students may have worried about their own vulnerability to the sickness and the danger of infecting their significant others due to their dread of catching the virus. **[Rasmussen et al., 2021]**, The pandemic had a substantial effect on nursing students' academic worries and satisfaction with the educational program as a resul. **[Rohde et al., 2022]**. In particular, the workforce is severely impacted by pandemics in the health care system. Since they spread via beads and interpersonal contact, respiratory infectious pandemics and pestilences are very destructive. **[Fernandez et al., 2020]**.

The benefits of e-learning for higher education institutions are numerous. On the other hand, there are still several challenges and impediments that prevent its effective utilization. A number of challenges, commonly referred as as barriers or obstacles to integrating e-learning, may arise throughout the initial process of incorporating it into teaching and learning. **[El-Hamed and Elgahsh, 2020]**. Additionally, there may be a number of modifications that Saudi Arabia's present e-learning system needs. **[Alqahtani et al., 2021]**. The transition from in-person instruction to an online learning environment presented the students with a variety of challenges. Problems with the learning environment, technological infrastructure, technical assistance, time management, family, and employment were among these challenges. **[Wallace et al., 2021]**. Flipped classrooms increase educational flexibility while changing the roles of professors and students. **[Khodaei et al., 2022]**. Students have undoubtedly experienced stress at this time since the switch to online learning has been difficult for nursing students**. [Majrashi et al., 2021]**. Clinical placement may be a challenging part of training even without the additional problems posed by a pandemic **[Ulenaers et al., 2021]**. All nations were able to modify their educational systems and concentrate on splitting technology as a result of this circumstance **[Farsi et al., 2021].** The COVID-19 pandemic constituted a crisis, and it was essential to preserve and progress learning [**Mukasa et al., 2021].** Students must continue receiving education and learning in order to graduate **[Romli et al., 2022].**

Educational institutions are not prepared for the shift to emergency distant learning. Despite the fact that students find remote learning programs to be less pleasant **[Sharma et al., 2021],** While all education is beneficial, nursing education is concentrated on critical decisions that affect people's health **[Kim et al., 2021].** Digital learning will soon supplant conventional learning as the main framework, whether this is due to pandemics, distant learning, or the growing human population **[ÖZKAN et al., 2021].** For nursing schools, a specialty that requires clinical practice experiences, the recommendations caused challenges and a great deal of ambiguity **[Leaver et al., 2021].** Access to real-world clinical experiences is still a major issue for nursing schools **[Castro et al., 2022].**

Some of the main obstacles that kids run into when studying online include a lack of technological access, the expansion of online learning adding additional items to students' school supply lists, problems learning to use new technology, problems concentrating, problems managing time, and isolation. **[Ayed et al., 2022]**, Lack of direct access to teachers was the main disadvantage **[Salmani et al., 2022].** Building connections with each student without in-person encounters is more challenging **[Hargreaves et al., 2021],** and parents and guardians of students were required to supply the appropriate technology and Internet access for the online classes **[Agu et al., 2021].**

Students expressed worries about what a break in their nursing education might mean for their eventual jobs as registered nurses. Many students who participated in clinical placements were nearing the end of their clinical practice specialization and hence were close to graduating from their degree. A few students were only a few classes away from completing their bachelor's in nursing. Even after canceling their present clinical placement, they continued to worry about their progress in the program. Additionally, several students expressed feeling self-centered and being concerned about failing to meet the job goals they had worked so hard to attain **[Dewart et al., 2020].** When faced with this enormous change, it is crucial to take into account the views and ambitions of students in order for the education and teaching authorities to devote enough resources and refocus university education for nursing students. In order to be able to handle this issue in the near future, it is crucial to learn from previous experiences and to identify the strong and weak parts**. [Ramos-Morcillo et al., 2020]**. The creation of remedies to minimize the challenges faced will be aided by research into nurse clinical practice during pandemic periods **[Kusumawaty et al., 2022].** As a result of the pandemic, both the general population and nursing students have undergone significant changes. **[Rana et al., 2022].**

Nursing students are a highly specialized group of students who were directly impacted by the epidemic due to their health background and field of study **(Gallego-Gómez et al., 2020).** As a result, in the wake of the COVID-19 pandemic, administrators at faculties and universities around the world had to reimagine new ways to deliver education while maintaining its quality. The purpose of this study is to describe the current situation of the barriers to nursing education and, consequently, the difficulties associated with employing remote technologies during the COVID-19 pandemic **[Bezerra, 2020].**

2. METHODOLOGY

2.1 Study Design

A descriptive cross-sectional design was applied among undergraduate nurses who study in Saudi universities.

2.2 Setting

A survey was conducted by distributing an online self- administrated questionnaire to undergraduate nursing students.

2.3 Sample

A total of 416 undergraduate nurses who learn online from (Qassim University, King Saud bin Abdulaziz University for Health Sciences, Umm Al-Qura University, Taif University, King Abdulaziz University, Taibah University, Princess Noura University, Prince Sultan University, Prince Sattam Bin Abdulaziz University, King Saud University "Jeddah", King Saud University "Riyadh", Buraydah National Colleges, King Khalid University, Tabuk university, Prince Sultan Military College of Health Sciences, Imam Muhammad bin Saud Islamic University, College of Applied Medical Sciences in Taif, Muhammad Al-Manea College of Medical Sciences, Jouf university, Shaqra university, Jazan university, Northern border university, Hail university, Albaha university, Alriyada collage for health science, Fakeeh collage of medical science, Imam Abdulrahman bin Faisal university, Najran university, Alghad international collages.) were involved.

2.4 Tools of data collection

For data collection an online self-administrative questionnaire, which devided into three parts:

Part 1: Contain questions about demographic characteristics of participants, includes (8) questions in the following sequence: Age, sex, residence, university, marital status, academic year, devise used for -learning activities, internet facility at home and using the computer since how long.

Part 2: Includes questions about student's attitude toward -learning scale: (18) questions were given in 3 sets of options regarding: E-learning usefulness, ease of use and opinion of nursing students about E-learning, each has 6 items. Questions were answered by [Agree, neutral, disagree].

Part 3: Dealt with obstacles that face participants regarding E-learning. Composed of (34) questions given in 5 dimensions regarding: Learners' characteristics dimension (7 items), Technical and management support (7 times), Infrastructure and technology (7 items), Curriculum content (6 items), Instructors' characteristics (7 items). Questions were answered by [Agree, neutral, disagree].

The tool was adopted from [Diab and Elgahsh, 2020], the questionnaire and it will be translated from English to Arabic language, and again from Arabic to English language for the sake of coherence. Data collected from students will be ensured through coding, computerizing and it will be analyzed using (SPSS) version.

2.5 Data collection procedure

Undergraduate nursing students from 29 universities in Saudi Arabia provided questionnaire about Distance Learning during Covid-19 Pandemic Obstacles that Faced Nursing Students and Its impact on their Attitudes between October 2020 and November 2020 using online Google-based data collecting forms. It took place while a curfew was in effect to stop COVID-19 from spreading, the most commonly used social media platforms, including Twitter and WhatsApp, were used to post a link to an anonymous self-reported questionnaire. By clicking the provided link, interested and eligible participants could access the online survey. The response was satisfactory and appropriate, and it assisted the investigators in determining the challenges they faced. Additionally, nobody dropped out of the study.

2.6 Ethical consideration

Ethical approval from the college of nursing Qassim University was obtained. Several strategies were utilized to protect the student's attitude rights who agreed to participate in this study. The students were informed of the purpose of the study, and that they had the right to refuse to participate. Also, the voluntary nature of participation was stressed as well as confidentiality. Furthermore, the students' attitude were told that they can refrain from answering any questions and they can withdrow at any time. Anonymity of the students was maintained at all times

2.7 Statistical analysis

Descriptive statistics were used to summarize demographic characteristics of the patients. Data were revised, coded, analyzed, and tabulated using number and percentage distribution and carried out using the Statistical Package for Social Sciences (SPSS) version 26. Appropriate statistical methods were applied (percentage, mean and standard deviation, independent T- test, F-test and Pearson correlation). Regarding P value, it was considered that: non-significant (NS) if P> 0.05, Significant (S) if P< 0.05, highly significant (HS) if P< 0.01.

3. RESULT

Attitude

Reliability Statistics	
Cronbach's Alpha	N of Items
.917	18

Obstacles

Reliability Statistics	
Cronbach's Alpha	N of Items
.938	34

Reliability Statistics

Table (1): frequency of Nursing Students Regarding Their Demographic characteristics (N=416)

Demographic characteristics	No	%
Age/ years		
<20	74	17.8
20-22	268	64.4
>20	74	17.8
Gender		
Male	33	7.9
Female	383	92.1
Residence		
Urban	361	86.8
Rural	55	13.2

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Marital status		
Not married	395	95.0
Married	21	5.0
Academic year		
Second	121	29.1
Third	128	30.8
Fourth	167	40.1
Device used for E-learning activities		
Computer	29	7.0
Laptop	223	53.6
Mobile	109	26.2
Other	55	13.2
Internet facility at home		
No	9	2.2
Yes	407	97.8
Duration of using the computer/ years		
≤5	202	48.6
>5	214	51.4

Table 1: Shows the demographic characteristics of the nursing students; it shows that nearly two thirds (64.4%) of them aged 20 to 22 years, majority (92.1% and 86.8%, and 95%) of them were female, from urban area and not married, also (40.1%) of them at fourth year. Regarding devices for E-learning, all students had devices for E-learning activities, more than half (53.6%) had laptop, majority (97.8%) of them had internet facility at home and nearly half (51.4%) of them using computers for more than 5 years.

Table (2): Frequency of Nursing Students Regarding their attitude toward E-learning (N=416)

Students attitude	Disagree		Neutral		Agree		$\bar{x}$	SD
	No	%	No	%	No	%		
Usefulness of E-learning								
E-learning contents are informative	20	4.8	113	27.2	283	68.0	**2.63**	**0.57**
E-Learning enhances my learning efficiency	60	14.4	165	39.7	191	45.9	**2.31**	**0.71**
E-Learning encourages me to search for additional information on the topic of learning	32	7.7	91	21.9	293	70.4	**2.63**	**0.62**
E-learning is a useful learning tool in providing distance education	25	6.0	88	21.2	303	72.8	**2.67**	**0.59**
E learning improves my success in my study	51	12.3	155	37.3	210	50.5	**2.38**	**0.69**
E-learning enables me to accomplish the learning activities more quickly	46	11.1	146	35.1	224	53.8	**2.43**	**0.68**
E-learning ease of use								
It is easy for me to handle E-learning content	18	4.3	103	24.8	295	70.9	**2.67**	**0.56**
E-learning gives all the materials I need in my studies	28	6.7	118	28.4	270	64.9	**2.58**	**0.62**
E-learning gives facilities to manage my time efficiently	39	9.4	148	35.6	229	55.0	**2.46**	**0.66**
E-learning makes my learning process easier	52	12.5	147	35.3	217	52.2	**2.40**	**0.70**
E-learning reduces students' educational cost	47	11.3	134	32.2	235	56.5	**2.45**	**0.69**
E-learning provides flexible interaction with teachers and friends	62	14.9	158	38.0	196	47.1	**2.32**	**0.72**
Opinion about E-learning								
E-learning is efficient as teaching method	31	7.5	163	39.2	222	53.4	**2.46**	**0.63**
E learning is better than face-to-face education in learning process	78	18.8	190	45.7	148	35.6	**2.17**	**0.72**
I prefer to use E-books for my studies	57	13.7	144	34.6	215	51.7	**2.38**	**0.72**
I interested in studying courses that use E-learning	50	12.0	157	37.7	209	50.2	**2.38**	**0.69**
I recommend using e learning system for other students	53	12.7	177	42.5	186	44.7	**2.32**	**0.69**
I enjoy using e learning system on my course	45	10.8	152	36.5	219	52.6	**2.42**	**0.68**

Table (2) describe frequency distribution of nursing students regarding their attitude toward E-learning. Nearly three quarters (70.4%, 72.8%, and 70.9%) of them agree that E-Learning encourages them to search for additional information, E-learning is a useful learning tool in providing distance education, easy for them to handle E-learning content respectively. The mean was (M±SD: 2.63±0.62, 2.67±0.59 and 2.67±0.56). Also, it shows that nearly two thirds (68% and 64.9%) of them agree that E-learning contents are informative, and E-learning gives all the materials I need in my studies. The mean was (M±SD: 2.63±0.57and 2.58±0.62).

Table (3): Total Mean and SD of Nursing Students Regarding their attitude toward E-learning (N=416)

Students attitude	x̄	SD
Mean Usefulness of E-learning	2.51	0.49
Mean of E-learning ease of use	2.48	0.48
Mean of Opinion about E-learning	2.35	0.53
Mean of Total Attitude toward E-learning	2.45	0.46

Table (3) presents the mean and standard deviation of nursing students regarding their attitude toward E-learning. The mean score for Usefulness of E-learning was the highest (M±SD: 2.51±0.49), it was followed by E-learning ease of use (M±SD: 2.48±0.48), and it was followed by opinion about E-learning (M±SD: 2.35±0.53). The total mean of attitude toward E-learning was (M±SD: 2.45±0.46).

Figure (1): Percentage of Nursing Students Regarding their Total attitude toward E-learning (N=416)
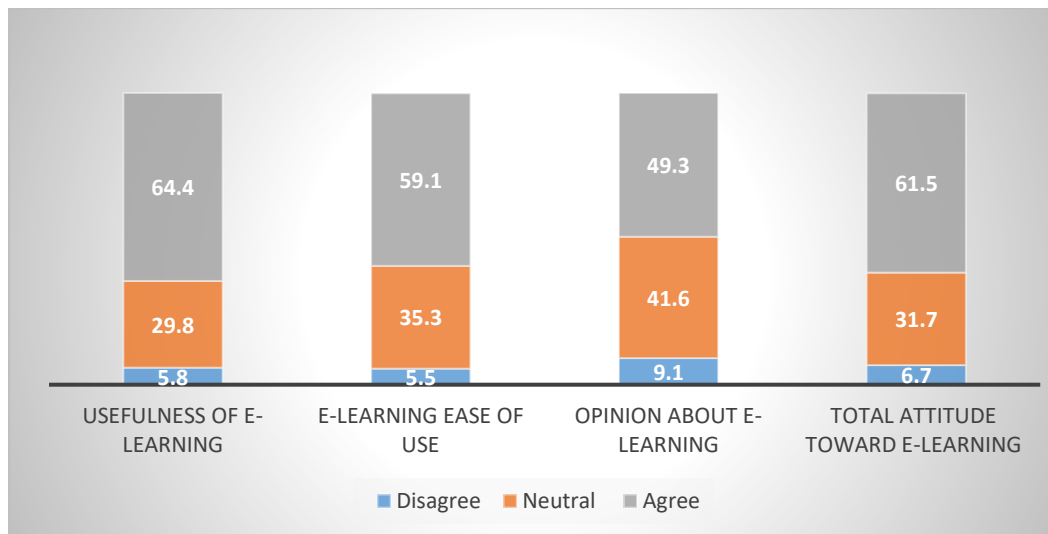

Figure (1) illustrates percentage of nursing students regarding their total attitude toward E-learning, it reveals that nearly two thirds (64.4%) of them was agreed toward usefulness of E-learning. and more than half (59.1%) was agreed about E-learning ease of use. Additionally, it shows that less than half (49.3%) was agreed of opinion about E-learning and less than two thirds (61.5%) was agreed regarding total attitude toward E-learning.

Table (4): Frequency of Nursing Students regarding their E-learning obstacles (N=416)

E-learning obstacles	Disagree		Neutral		Agree		x̄	SD
	No	%	No	%	No	%		
Learners' characteristics dimension								
Lack of sufficient knowledge and skill in the use of E-learning	59	14.2	196	47.1	161	38.7	**2.25**	**0.69**
Lack of devices to use for E-learning	19	4.6	96	23.1	301	72.4	**2.68**	**0.56**
Lack confidence and shyness from learning online	69	16.6	192	46.2	155	37.3	**2.21**	**0.71**
No internet connection	19	4.6	70	16.8	327	78.6	**2.74**	**0.53**
Lack time management skills to keep up with the pace of the course	44	10.6	135	32.5	237	57.0	**2.46**	**0.68**

Lack of interaction with my colleagues through the E-learning platform	48	11.5	123	29.6	245	58.9	**2.47**	**0.69**
Lack language skills and typing skills for online learning	66	15.9	158	38.0	192	46.2	**2.30**	**0.73**
Technical and management support								
Faced with system errors and lack of access to the E-learning platform	20	4.8	112	26.9	284	68.3	**2.63**	**0.57**
The slowness of network is an obstacle to my learning online	15	3.6	67	16.1	334	80.3	**2.77**	**0.50**
Lack of support services such as tutors	44	10.6	146	35.1	226	54.3	**2.44**	**0.68**
The E-learning system is unavailable most of the time	66	15.9	192	46.2	158	38.0	**2.28**	**0.68**
The college does not provide technical support for using E-learning	66	15.9	192	46.2	158	38.0	**2.22**	**0.70**
University books are not compatible with the use of E-learning	70	16.8	189	45.4	157	37.7	**2.21**	**0.71**
Lack technical assistance to handle technological problems	54	13.0	172	41.3	190	45.7	**2.33**	**0.69**
Infrastructure and technology dimension								
Low bandwidth connections with frequent breakdowns	27	6.5	157	37.7	232	55.8	**2.49**	**0.62**
Lack of proper training before using E-learning platform	55	13.2	153	36.8	208	50.0	**2.37**	**0.71**
The cost of internet fees/charges from the private cafe' impede E-learning	43	10.3	176	42.3	197	47.4	**2.37**	**0.66**
Lack of counseling during taking E-learning courses	42	10.1	172	41.3	202	48.6	**2.38**	**0.66**
E-learning system design is not flexible and difficult to use	76	18.3	221	53.1	119	28.6	**2.10**	**0.68**
Erratic power supply at home hinders my use of E-learning resources	34	8.2	151	36.3	231	55.5	**2.47**	**0.64**
The rules and program directions in using online discussion are difficult to me	62	14.9	184	44.2	170	40.9	**2.26**	**0.70**
Curriculum content dimension								
Learning and teaching resources that are available on the E-learning system are not in accordance with the curriculum	77	18.5	178	42.8	161	38.7	**2.20**	**0.73**
Difficult to learn the contents of my subject using E-learning	45	10.8	167	40.1	204	49.0	**2.38**	**0.67**
Difficult to understand the contents of the subject through E-learning	46	11.1	167	40.1	203	48.8	**2.38**	**0.68**
Disproportion of E-learning with curriculum content	56	13.5	167	40.1	193	46.4	**2.33**	**0.70**
Concerns about the practical nature of some courses are not offered electronically	34	8.2	154	37.0	228	54.8	**2.47**	**0.64**
Lecture notes are supported by multimedia tools (flash animations, simulations, videos, audios, etc.)	32	7.7	120	28.8	264	63.5	**2.56**	**0.63**
Instructors' characteristics dimension								
Instructors do not have sufficient knowledge and skill to use e-learning	48	11.5	192	46.2	176	42.3	**2.31**	**0.67**
My teachers not confident in using e-learning	60	14.4	198	47.6	158	38.0	**2.24**	**0.69**
Lack of clear instructions from my teacher	56	13.5	161	38.7	199	47.8	**2.34**	**0.70**
Lack of timely feedback from instructor	42	10.1	152	36.5	222	53.4	**2.43**	**0.67**
My teachers prefer conventional ways of teaching and research	14	3.4	154	37.0	248	59.6	**2.56**	**0.56**
My teacher's delay in submitting courses online on time affects my performance	35	8.4	151	36.3	230	55.3	**2.47**	**0.65**
Difficulty contacting with academic staff when at home	41	9.9	161	38.7	214	51.4	**2.42**	**0.66**

Table 4 elaborates frequency distribution of E-learning obstacles items the highest percentage (78.6% and 80.3%) of nursing students was agreed no internet connection and the slowness of network. While more than half (55.8%, 55.5% and 63.5%) of them agreed that low bandwidth connections with frequent breakdowns, erratic power supply at home hinders my use of E-learning resources, and lecture notes are supported by multimedia tools (flash animations, simulations, videos, audios,

etc.) respectively. Regarding instructors' characteristics, it reveals that nearly half (51.4%, 59.6%, 55.3%, and 53.4%) of nursing students was agreed that lack of timely feedback from instructor, teachers prefer conventional ways of teaching and research, teacher's delay in submitting courses online on time, and difficulty contacting with academic staff when at home.

Table (5): Total Mean and SD of Nursing Students regarding their E-learning obstacles (N=416)

Students E-learning obstacles	x̄	SD
Learners' characteristics dimension	2.44	0.45
Technical and management support	2.41	0.46
Infrastructure and technology	2.35	0.51
Curriculum content dimension	2.39	0.50
Instructors' characteristics dimension	2.40	0.50
Total E-learning obstacles	**2.40**	**0.42**

Table (5) reflects the mean and standard deviation of nursing students regarding their E-learning obstacles. The mean score for learners' characteristics dimension was the highest (M±SD: 2.44±0.45), it was followed by technical and management support (M±SD: 2.41±0.46) and it was followed by instructors' characteristics dimension (M±SD: 2.40±0.50). The mean score of curriculum content dimension was (M±SD: 2.39±0.50) and the mean score of infrastructure and technology was (M±SD: 2.35±0.51). The total mean of E-learning obstacles was (M±SD: 2.40±0.42).

Figure (2): Percentage of Nursing Students regarding their E-learning obstacles (N=416)
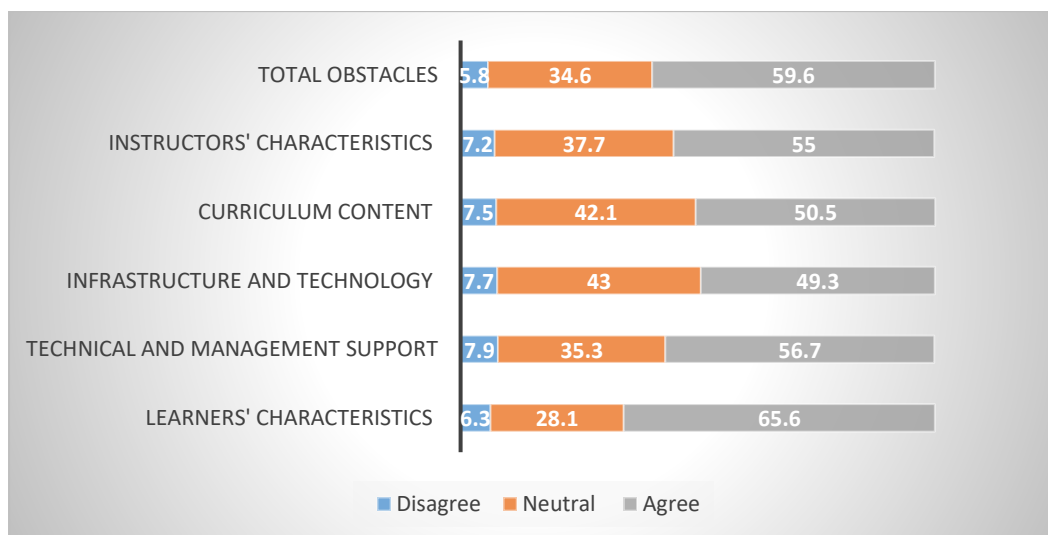

Figure (2) explains percentage of nursing students regarding their total E-learning obstacles, it reveals that nearly two thirds (65.6%) of them was agreed toward learners' characteristics obstacles, and more than half (56.7%, 50.5%, and 55%) was agreed about technical and management support obstacles, curriculum content obstacle and instructors' characteristics obstacles. Additionally, it shows that less than half (49.3%) was agreed infrastructure and technology obstacles, and more than half (59.6%) was agreed regarding total E-learning obstacles.

Table (6): Relation between demographic characteristics of Nursing Students and total Attitude (N= 416)

Demographic characteristics	Attitude		Statistical test	
	x̄	SD	F	P value
Age/ years				
<20	2.41	0.46	1.270	.282
20-22	2.44	0.46		
>20	2.52	0.44		
Gender				
Male	2.47	0.45	T test	.788
Female	2.45	0.46	.270	

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Residence					
Urban	2.45	0.45	T test	.405
Rural	2.40	0.47	.834	
Marital status					
Single	2.44	0.45	T test	.261
Married	2.56	0.46	-1.125	
Academic year					
Second	2.32	0.51	6.807	.001**
Third	2.48	0.40		
Fourth	2.51	0.44		
Device used for E-learning activities					
Computer	2.44	0.43	.114	.952
Laptop	2.44	0.47		
Mobile	2.46	0.45		
Other	2.46	0.45		
Internet facility at home					
No	2.53	0.38	T test	.598
Yes	2.45	0.46	-.528	
Duration of using the computer/ years					
≤5	2.42	0.46	T test	.185
>5	2.48	0.45	-1.328	

Table (6) depicts the relation between nursing students' total attitude and demographic characteristics. There was no statistically significant relation between age, gender, residence, marital status, device used for E-learning activities, internet facility at home, duration of using the computer, and total attitude toward E-learning **with** ($p > 0.05$).On the other hand, there was highly statistically significant relation between academic year and total attitude, in which, students at fourth year had a highest level of attitude toward E-learning (M±SD: 2.51±0.44 with ($p < 0.01$).

Table (7): Relation between demographic characteristics of Nursing Students and level of obstacles (N= 416)

Demographic characteristics	Obstacles		Statistical test	
	$\bar{x}$	SD	F	P value
Age/ years				
<20	2.41	0.44	.175	.840
20-22	2.39	0.42		
>20	2.42	0.39		
Gender				
Male	2.31	0.48	T test	.184
Female	2.41	0.41	-1.332	
Residence				
Urban	2.40	0.41	T test	.745
Rural	2.41	0.44	-.325	
Marital status				
Single	2.40	0.41	T test	.282
Married	2.30	0.50	1.077	
Academic year				
Second	2.41	0.43	.035	.965
Third	2.39	0.39		
Fourth	2.39	0.43		
Device used for E-learning activities				
Computer	2.40	0.41	1.295	.276
Laptop	2.41	0.41		
Mobile	2.43	0.39		
other	2.30	0.48		

Internet facility at home				
No	2.53	0.56	T test -.528	.598
Yes	2.39	0.41		
Duration of using the computer/ years				
≤5	2.38	0.42	T test -.963	.336
>5	2.42	0.41		

Table (7) describes the relation between nursing students' total obstacles and demographic characteristics. There was no statistically significant relation between age, gender, residence, marital status, academic year, device used for E-learning activities, internet facility at home, duration of using the computer, and total obstacles toward E-learning with (p > 0.05).

Table (8): Correlation between Attitude and Obstacles of E-learning Among Nursing Students (N= 416)

Obstacles	Total attitude	
	r	P value
Learners' characteristics dimension	-.116*	.018
Technical and management support	-.096*	.049
Infrastructure and technology	-.057	.248
Curriculum content dimension	-.167**	.001
Instructors' characteristics dimension	-.089	.069
Total E-learning obstacles	-.119*	.015

Table 8 shows that highly statistically negative correlation between students' nurse attitude and curriculum content obstacles regarding E-learning whereas P value < 0.001. Additionally, it shows statistically negative correlation between students' nurse attitude, learners' characteristics dimension and technical and management support obstacles regarding E-learning whereas P value < 0.05. Additionally, it shows statistically negative correlation between students' nurse attitude and E-learning obstacles whereas P value < 0.05.

4. DISCUSSION

The current study explores the obstacles that nursing students experienced in an online learning environment and how it impacted their attitude. Some of these obstacles are related to the student himself, the technology and the instructors. The success or failure of e- learning across an organization depends on several factors, so the evaluation of e-learning systems is vital to effective use, ensure successful implementation, and positive impacts on learners, and in order to evaluate e-learning accurately, we have to know what are the obstacles and challenges that leads to the ineffectiveness of e-learning (El-Hamed and Elgahsh, 2020).

This study was concerned about knowing the impact of the obstacles on nursing students' attitudes towards e-learning, the common obstacles faced by nursing students during applying distance learning, the relation between the students' demographics characters, obstacles faced and their attitude towards e-learning, and the correlation between obstacles faced by nursing students and their attitudes towards e-learning (Cengiz and Gurdap, et al.,2022) .

The results also indicated some technical and infrastructure obstacles, such as facing system errors, lack of access to the E-learning platform, the slowness of network, lack of support services and lack of technical assistance to handle technological problems. This is in line with El-Hamed, Elgahsh (2020) in his study, which reported a worry about the technical issue. In addition, the study shows lack of infrastructure, this can be looked at both from the institutional angle (academic institutions) as well as the individual angle (students). Most institutions lack the requisite infrastructure (Internet access, bandwidth, networks, computers, servers, and so on). This puts a limitation on the effective operation of distance learning. For instance, if the bandwidth or the internet pipe is not adequate, and the access is not stable, distance learning is usually hampered. The same thing goes for the student who is not adequately resourced in terms of infrastructure (desktop, laptop, smartphone, internet access, and so on) to access the school's infrastructure.

Because distance learning is the direct opposite of face-to-face learning, it removes the element of socialization from it considerably or entirely. This normally hampers the social development of students: relationships, communication, public

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speaking, confidence and constructive interactions, and so on. Again, for some reasons, distance learning is not widely accepted, as it shows (58.9%) of the student lack interaction with their colleagues. This result is in accordance with Natarajan and Joseph (2021), that show how students have low social presence and low satisfaction with this remote teaching, so students are not satisfies with the lack of social interaction.

The current study also shows that the mean score for usefulness was the highest, then followed by ease of use and opinion. So, students felt that e-learning is very useful that add value to education, but it is not easy because it is new and sudden for both students and teachers which affect their attitudes towards e-learning. This against Subedi and Nayaju et al. (2020), because it shows that distance education is not fully effective methods to develop the country unless the factors affecting the e-learning are taken into account.

The majority of nursing students reported difficulty contacting with academic staff when at home, teachers prefer conventional ways of teaching and research, and they delay in submitting courses online on time. And this will make students feels difficulties in using e-learning methods because teacher are uncooperative which will affect students' attitude and e-learning effectiveness. This result is congruent with Salmani and Bagheri, et al., (2022), who founds that some of the disadvantages of distance learning is changing the way they interact with teachers, and this make students believe that e-learning could supplement face learning but not replace it. Because t if teachers want to succeed in remote teaching, they should have a positive attitude towards the new technology implementation.

Most students are concern about the practical nature of some courses that are not offered electronically, such as clinical practice, which was strongly influenced by online learning methods. As stated in Park and Seo (2022), which reveals that students attempted to discover their own learning expertise through virtual learning while concerned that they would be unable to fully establish their competence to work as actual hospital nurses due to a lack of clinical practice.

Regarding the overall attitude toward e-learning among nursing students according to their academic years, the current study showed that the highest percentage among fourth-year students had highest level of attitudes toward using e-learning(M±SD: 2.51± 0.44), this is may be because the faculty members in the Department of Nursing use e-learning in teaching from previous years. Unlike the second-year students has the lowest attitudes toward using e-learning, it may be because they are new to college and have no experience using the Internet in their previous school years. These results agreed with Rana, Kalal, et al., (2022) that shows that the fisrt-year student were the most academic year who have the lowest attitudes towards e-learning.

Regarding the nursing students' attitudes towards e-learning, the results of the attitude towards e-learning scale among nursing students shows M±SD: 2.45±0.46, this positive result is similar to study of Guillasper, Soriano, and Oducado (2020) study, which was was 0.917, but two nursing colleges were included in the later study, unlike the present study which includes 29 universities. But the current study shows that three quarter of students agree that e-learning is a useful and easy tool. So, the overall attitude towards e-learning for students was highly positive and considered as a form of acceptance from students for this sudden change from face-to-face learning to el-learning. Also, the students was enjoying the practice of e-learning which is a new experience for students of the Faculty of Nursing. Which goes against recent reviews of Oducado and Soriano (2021) that indicates that e-learning produces negative academic outcomes in undergraduate nurses and health professional education.

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