

Perception of Undergraduate Nursing Students Regarding Online Learning during COVID-19 Second Wave

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Abstract: *Coronavirus disease (COVID-19) is an infectious disease caused Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The fight against COVID-19 remains ongoing in India as COVID-19 second wave which again forced to shut down colleges and started online classes. Objective: to assess the perception of undergraduate nursing students towards online learning during Covid-19 second wave. Methodology: A descriptive, cross sectional survey study was conducted on 200 undergraduate nursing students through snowball sampling technique. Result: the result showed that 57.5% of samples had negative perception regarding online classes. Conclusion: The study highlights that online learning is a powerful tool for the continuity of teaching and learning process for nursing students in India during Covid-19 second wave. Administration and teaching faculty members should take necessary measures for improving online learning for better learning during this pandemic.*

Keywords: Perception, Undergraduate nursing students, online learning, COVID-19, COVID-19 second wave

1. Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus which suddenly altered into a global pandemic disease from March 11th, 2020. The etiological agent of COVID-19 is the Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which emerged in Wuhan, China. [1] The fight against coronavirus disease of 2019 (COVID-19) remains ongoing in India and around the world. A large part of world experienced a lockdown due to COVID 19 pandemic which closed educational institutions and has disrupted teaching in a variety of institutions, especially in nursing schools and colleges. In many countries, typical face-to-face classes had to be suspended to ensure the safety of students, teaching faculties and patients. After few months when cases get settled down, all institutions started face to face classes.

According to BBC, on 10th Feb 2021, at the start of second wave in India, there is confirmed cases of 11,000 cases but now the cases rose sharply with the daily average reaching around lakh of cases. According to experts, 2nd wave is spreading much faster across the country and daily death has risen sharply in the second wave. [2] This again has forced different state government to shut down all school, colleges, malls, restaurants etc. This ongoing Covid-19 pandemic causing all educational institutions to close down and thus giving rise to multiple challenges at all stages and levels of education in particular for students. [3]

To minimize the impact of lockdown, medical schools and college had to find another approach to teach medical students. Fortunately, current technology enabled electronic learning (e-learning) to be the core method of teaching the

curriculum during the COVID-19 pandemic. [4] Currently, online teaching is commonly used in the training of undergraduates-not as a sole method, but combined with the traditional teacher-led approach. [5]

America Nurses Association (ANA) suggested in 2010 that, online, virtual, simulated and competency-based learning should be attempted in educational institutions to expand opportunities to students and increase efficiency of nursing students.[6]

Online learning is a virtual learning system which integrates internet connection with teaching and learning process. [7] The interaction of teaching and learning activities can be carried out from the distance with the help of internet and online media [8]. However, this method can be difficult for those teachers who are specialized in conventional teaching and are uncomfortable to use electronic gadgets. Also, students may not feel serious in online teaching as teachers have little control in online teaching. [9]

The success of online learning depends on many factors, including accessibility, usage of appropriate methods, course content, and assessment criteria. Online learning, like any method of teaching, has its advantages and disadvantages for both students and teachers. Besides the epidemiological benefits of online learning during the COVID-19 pandemic, other benefits worth mentioning include increased convenience, access to resources regardless of location and time, and reduction of costs and air pollution, for example, carbon dioxide emission because of the reduction in traffic. [10-12]

Volume 10 Issue 5, May 2021

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Online learning also has limitations, including problems with internet access, poor internet connection quality, and insufficient digital skills of the respondents. Some benefits such as time flexibility can also be a limitation, especially for students who have difficulties with self-discipline. [13-16]

Nursing administrators and teachers are taking appropriate measures to conduct effective online learning via online lectures, online tutorials, online case based learning etc so that continued education can be provided without getting much affected during this 2nd wave of COVID 19. Also various e teaching software are being explored by teachers to bring maximum possible ease for their students.

2. Literature Survey

Various studies have been conducted across different countries to determine medical student's perception on E-learning. A study was done in Pakistani medical and dental students in which students did not prefer e-teaching over face-to-face teaching during the lock down situation. 77% students had negative perceptions towards e-learning [17]. Further, a study done in Indonesia among medical students found some supportive but also inhibitory factors to distance learning. The most agreed supportive factor was location flexibility (87.9%) and the most common inhibitory factor was signal dependent (80.2%) [18]. A study was conducted to assess the impact of E-learning among nursing students and teachers of Kathmandu during COVID-19 in which almost half of the teachers (42.3%) got disturbed for their online class because of the electricity problem, 48.1% because of internet problems. More than half of the students (63.2%) were affected because of electricity and 63.6% internet problem. However, 64.3% of students used data pack for their online class, 58.4% used mobile (cell phone). [19]

James M. Marshal established that people remember only 10% of what they read, 20% of what they hear, 30% of what is visible to them and 50% of what they hear and see. With the advent of technologies which combines images, texts and audio all in one learner can make the percentage even higher than 50%. [20]

A study by Koirala D et al was conducted a cross sectional study to assess the perception of 133 nursing students at Gandaki Medical College of Nepal. Data were collected through online survey using a semi-structured questionnaire. The result showed that 54.1% had negative perception towards online classes. However, majority felt that online classes should be continued during this pandemic. [21]

Studies by Coopasami et al and Ali W reported much earlier this pandemic that, nursing students are psychological ready for E-Learning although technological and equipment readiness among them was lacking. [22, 23]

According to Ali W et al and Morcillo A et al their literature showed that nursing students found this pandemic moderately stressful due to their personal problems such as older students with family responsibilities, poor technological accessibility, poor performance in online exam but although passing an online exam enhances nurses'

student attitude towards e-learning. In this context teachers are ready to find out the outcome of the online teaching in each and every corner. [23, 24]

The study of effectiveness of online learning has become essential component in the education system in India. Very little information exists about the experiences of students regarding online classes in India. Keeping these in mind, perception of nursing students on online learning need to be understood, so that their learning experience can be improved in the next academic year due to uncertain of future in the short-term control of COVID-19. Therefore, the researcher assessed the perception of nursing students towards online learning implemented during Covid-19 pandemic in India. This knowledge is necessary to identify student's requirement during online learning to make this learning system beneficial for the students.

3. Methodology

A descriptive, cross-sectional web-based survey was used to conduct the study among undergraduate nursing students studying from 1st year to 4th year of various college of nursing, Gurugram, Haryana. An online teaching in nursing program was started in selected college from 11 April 2021 which were conducted every day using ZOOM application and GOOGLE MEET. So, this setting was selected purposively for the study purpose. A Snowball sampling technique was employed to enrol survey participants. A total of 200 samples were responded. Participation in the study was fully voluntary and non-commercial. In the pandemic situation as we were unable to approach individual nursing colleges for participation. Thus, the link of the online semi structured questionnaire for gathering basic details of the participants and a Likert scale developed by using Google forms, along with consent form was sent mainly through E-mails, WhatsApp. On receiving and clicking the link, the participants were automatically directed to the information about the study and informed consent. After they agreed to take the survey, they filled up their details and so on. Though estimation of sample size is necessary, but in the present study we did not restricted the number of participants; as we required large number of samples from different colleges in an around Gurgaon, Haryana, India. Researchers collected the data from 10 April to 15 April, 2021.

A self-administered semi-structured questionnaire developed through extensive review of related literature and after consultation with experts was used for data collection. The questionnaire was organized into 2 parts:

Part I: consisted of questions related to socio-demographic and online class related information.

Part II: consisted of Likert scale for the measurement of perception. It included 24 statements using 5-point Likert scale (1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly agree). The total score ranges from 24 to 120. The level of perception was computed by using median score and was categorized as: score above the median= Positive perception and score equal to or below the median score= Negative perception.

Validity of the instrument was maintained by extensive review of literature and consultation with research experts. Reliability in terms of consistency of the tool was tested by calculating Cronbach's alpha value which was 0.79. After data collection, data were coded and entered in IBM SPSS, version 22. Data were analysed by employing descriptive statistical method which includes frequency, mean, standard

deviation and inferential statistical method such as chi-square test, Fisher exact test. Statistical significance was considered at $p < 0.05$.

4. Results

Table 1: Demographic characteristics, online learning related characteristics of undergraduate nursing students (n=200)

S. No.	Characteristics	Categories	Frequency	Percentage (%)
1	Age	a.17-19	19	9.5
		b.19-21	85	42.5
		c.21-23	96	48.0
2	Gender	a.Male	17	8.5
		b.Female	183	91.5
3	Year of study	a. B.Sc. NursingFirst year	19	9.5
		b. B.Sc. NursingSecond year	68	34.0
		c. B.Sc. NursingThird year	32	16.0
		d. B.Sc NursingFourth year	81	40.5
4	Area of Residence	a.Rural	90	45.0
		b.Urban	110	55.0
5	Marital Status	a.Married	13	6.5
		b.Unmarried	187	93.5
6	Type of Family	a.Nuclear	143	71.5
		b.Joint	57	28.5
7	Family Income per month	a.<10000	34	17.0
		b.10000-30000	86	43.0
		c.30000-50000	51	25.5
		d.>50000	29	14.5
8	Information Technology Skills	a.Excellent	17	8.5
		b.Good	116	58.0
		c.Average	67	33.5
9	Attended online learning class before pandemic	a.Yes	194	97.0
		b.No	6	3.0
10	Gadget used for attending online learning class	a.Mobile	186	93.0
		b.Laptop	14	7.0
11	Internet connections used for attending online learning class	a.Wi-fi	32	16.0
		b.Cellular data	111	55.5
		c.Combination	57	28.5
12	Sound /static internet connections	a.Yes	132	66.0
		b.No	68	34.0
13	Internetfacility at own home	a.Yes	154	77.0
		b.No	46	23.0
14	Online learning be continued during this pandemic	a.Yes	161	80.5
		b.No	39	19.5
15	Satisfaction from Online learning Classes	a.Strongly satisfied	10	5.0
		b.Satisfied	76	38.0
		c.Less satisfied	114	57.0

Table 1 showed that majority of the undergraduate nursing students (42.5%) were in the age group of 19-21 years, (91.5%) were female, (42.5%) were 4th year B.Sc. Nursing holder, (55%) were residing in urban area, (93.5%) were unmarried and (71.5%) had nuclear family. Less than half of the nursing student (43%) had monthly family income of 10000-30000. The majority of nursing students also had good IT skills (58%), (97%) had never attended the online

class before COVID-19, (93%) used mobile for attending online class, 55% were using cellular data for attending class. Majority of nursing students (66%) had access to sound internet and 77% of them have internet at their home. Majority of the students (80.5%) felt that online learning should be continued during this pandemic and 57% were less satisfied from online learning.

Table 2: Perception of undergraduate nursing students towards online learning (n=200)

S. no.	Statements	Strongly disagree F (%)	Disagree F (%)	Neutral F (%)	Agree F (%)	Strongly agree F (%)
1	Online learning system is interesting and easy to use	15 (7.5%)	31 (15.5%)	81 (40.5%)	69 (34.5%)	04 (2%)
2	Online learning environment is better than class room learning environment.	41 (20.5%)	68 (34%)	53 (26.5)	37 (18.5%)	1 (0.5%)
3	Online learning classes needs no specific preparation.	10 (5%)	57 (28.5%)	63 (31.5)	69 (34.5%)	1 (0.5%)
4	Online learning classes are more motivating than a regular class.	30 (15%)	97 (48.5%)	36 (18.0)	35 (17.5%)	2 (1%)

5	Self-discipline is necessary during online studies.	4 (2%)	3 (1.5%)	19 (9.5)	118 (59.%)	56 (28%)
6	Online learning provides an opportunity to create student's own learning environment	3 (1.5%)	17 (8.5%)	49 (24.5)	112 (56%)	19 (9.5%)
7	Online learning improves technical skills in using electronic gadgets.	1 (0.5%)	19 (9.5%)	33 (16.5)	114 (57%)	33 (16.5%)
8	Face-to-face contact with teacher is necessary to learn.	0 (0%)	12 (6%)	20 (10%)	93 (46.5%)	75 (37.5%)
9	There is a lack of participation, understanding and concentration among students in online learning.	18 (9%)	106 (53%)	41 (20.5%)	24 (12%)	11 (5.5%)
10	There is a lack of student-teacher interaction during online classes.	9 (4.5%)	22 (11%)	60 (30%)	102 (51%)	7 (3.5%)
11	Individual students dominate during online classes.	31 (15.5%)	8 (4%)	31 (15.5%)	129 (64.5%)	1 (0.5%)
12	Student are able to gain practical knowledge through online classes	29 (14.5%)	111 (55.5%)	43 (21.5%)	14 (7.0%)	3 (1.5%)
13	Recorded online class can be useful for future	17 (8.5%)	21 (10.5%)	47 (23.5%)	98 (49%)	17 (8.5%)
14	By utilizing assignments or specific tasks, active learning can be enhanced during online classes	4 (2%)	24 (12%)	43 (21.5%)	110 (55%)	19 (9.5%)
15	Online classes lack opportunities of student evaluation	0 (0%)	4 (2%)	30 (15%)	116 (58%)	50 (25%)
16	Online classes are very costly in terms of internet recharge	0 (0%)	11(5.5%)	26 (13%)	110 (55%)	53 (26.5%)
17	Online classes require strong internet access	0 (0%)	21 (10.5%)	73 (36.5%)	97 (48.5%)	9 (4.5%)
18	Online classes usually lead to more physical problems like fatigue, eye pain, and headache	0 (0%)	6 (3%)	19 (9.5%)	85 (42.5%)	90 (45%)
19	Online classes commonly have more interruptions	0 (0%)	14 (7%)	41 (20.5%)	111 (55.5%)	34 (17%)
20	During online classes students face difficulties in asking questions & doubts.	0 (0%)	31 (15.5%)	45 (22.5%)	92 (46%)	32 (16%)
21	Weekly feedback should be taken from students to enhance online learning	71 (35.5%)	100 (50%)	22 (11%)	7 (3.5%)	0 (0%)
22	Easy and quick share of educational material through online classes	70 (35%)	92 (46%)	25 (12.5%)	13 (6.5%)	0 (0%)
23	Online classes provide updated learning material	38 (19%)	18 (9%)	37 (18.5%)	107 (53.5%)	0 (0%)
24	During online classes there is flexibility of time and space	39 (19.5%)	110 (55%)	32 (16%)	19 (9.5%)	0 (0%)

Table 2 showed the perception of undergraduate nursing students towards online learning. Less than half of the students (40.5%) were -----that "Online learning system is interesting and easy to use". Less than half of the nursing students (34%) were disagreed that "Online learning environment is better than class room learning environment". Majority of nursing students (34.5%) were agreed that "Online learning needs no specific preparation", almost half of students (48.5%) were disagreed that "Online learning classes are more motivating than a regular class"and more than half (59%,56% & 57%) were agreed that "Self-discipline is necessary during online studies, Online learning provides an opportunity to create student's own learning environment and Online learning improves technical skills in using electronic gadgets.". Less than half of nursing students (46.5%)agreed that "Face-to-face contact with teacher is necessary to learn".Majority of the students (53%) were disagreed that "There is a lack of participation, understanding and concentration among students in online learning" but majority of them (51%) were agreed that "There is a lack of student-teacher interaction during online classes". Majority of students (64.5%) were agreed that "Individual students dominate during online classes".More than half of students (55.5%) were disagreed that "Student are able to gain practical knowledge through online classes". Almost half students (49%) were agreed that "Recorded

online class can be useful for future". More than half of students (55%) agreed that "By utilizing assignments or specific tasks, active learning can be enhanced during online classes". More than half of students (58%) were agreed that "Online classes lack opportunities of student evaluation". More than half of students (55%) were agreed that "Online classes are very costly in terms of internet recharge" and less than half (48.5%) were agreed that"Online classes require strong internet access". Less than half of students (45%) were strongly agreed that "Online classes usually lead to more physical problems like fatigue, eye pain, and headache". More than half of them (55.5%) were agreed that "Online classes commonly have more interruptions". Less than half of students (46%) were agreed that "During online classes students face difficulties in asking questions & doubts". Half of the students (50%) were disagreed that "Weekly feedback should be taken from students to enhance online learning", less than half of them (46%) were disagreed that"There is aneasy and quick share of educational material through online classes", more than half of students (53.5%) were agreed that "Online classes provide updated learning material" and almost more than half of students (55%) were disagreed that "During online classes there is flexibility of time and space".

Table 3: Overall scoring on perception of students regarding online learning (n=200)

S No.	Variable	Possible score	Mean (SD)	Median	Minimum	Maximum
1	Overall perception score	24-120	64.4 (11.8)	59	46	96
2	Percentage of scoring of perception	20-100%	53.7% (9.8)	49.2%	38%	80%

Table 3 revealed the statistics of overall perception score and their percentage of nursing students regarding online learning. It shows that the possible score was 24 to 120 which could be obtained by students. Out of the full score, the mean score obtained by the students was 64.3 (53.7%)

and median score was 59 (49.2%) with minimum perception score of 46 (38%) and maximum score of 96 (80%).

Table 4: Overall level of perception of students towards online learning (n=200)

S. No.	Level of perception	Frequency	Percentage
1	Positive perception (more than median)	85	42.5%
2	Negative perception (less than median)	115	57.5%

Table 4 revealed the overall level of perception of students regarding online learning. More than half of the students (57.5%) had negative perception towards online learning and less than 42.5% had positive perception towards online learning.

Table 5: Association between level of perception and selected variables (n=200)

S.no	Variables	Level of perception		Test	df	p- value
		Positive	Negative			
1	Age • 17-19 • 19-21 • 21-23	7	12	5.55 (Chi square test)	2	0.68
		29	56			
		49	47			
2	Gender • Male • Female	10	7	0.02 (Chi square test)	1	0.15
		75	108			
3	Year of study • B.Sc. Nursing First year • B.Sc. Nursing Second year • B.Sc. Nursing Third year • B.Sc NursingFourth year	4	15	5.18 (Fisher exact test)	3	0.15
		34	34			
		13	19			
		34	47			
4	Gadget used for attending online learning class • Mobile • Combination	78	108	0.34 (Chi square test)	1	0.55
		7	7			
5	Online learning be continued during this pandemic • Yes • No	79	82	14.57 (Chi square test)	1	0.01*
		6	33			
6	Satisfaction from Online learning Classes • Strongly satisfied • Satisfied • Less satisfied	8	2	36.01 (Fisher exact test)	2	0.01*
		13	63			
		64	50			

Table 5 showed that there is statistically significant association of level of perception with continuation of online learning (p=0.01) and satisfaction regarding online learning (p=0.01) whereas there is no statistically significant association between respondent’s perception and their age, gender, year of study and gadget used for attending online learning class.

5. Discussion

This survey study assessed the perception regarding online learning during Covid -19 second wave among nursing student in selected college of nursing. The study found that More than half of the students (57.5%) had negative perception towards online learning. This finding is supported by a few studies that conducted among nursing students of Nepal which showed 54.1% students have negative perception about online class[21] and 77% of medical students have negative perception towards e-learning.[17]

This present study showed that majority of the nursing students (93%) used mobile for attending online class,(55%) were using cellular data for attending class, (80.5%) felt that online learning should be continued during this pandemic and (57%) were less satisfied from online learning. Various studies also support this finding. A study conducted on private medical college showed that 76% of the student use mobile device for their e learning [17]. Some other study showed that 66.2% were using both cellular data and Wi-Fi

for attending the class and 91.7% were preferred that online learning must be continued during pandemic [21]. One study conducted on nursing students also showed that 68.7% of subject were partially satisfied with online study during COVID19. [25]

In this study, less than half of the nursing students (34%) were disagreed that Online learning environment is better than class room learning environment. A study conducted among Saudi pharmacy students showed that 72% preferred traditional in class lectures over the online interactive lecture. [26]

Less than half of nursing students (34.5%) were agreed that “Online learning needs no specific preparation” and more than half (59%) were agreed to “Self-discipline is necessary during online studies”. A study conducted among Nepal nursing students showed that 52.6% were disagreed that no specific preparation is needed but 63.2% were strongly agreed that self-discipline is necessary. [21]

46.5% agreed that Face-to-face contact with teacher is necessary to learn. A study also showed that majority 85% of the student’s preferred face to face teaching over e-teaching.[17]56% agreed that online learning provides an opportunity to create student’s own learning environment and majority of them (51%) were agreed to “There is a lack of student-teacher interaction during online classes”. A study was conducted on Indian nursing students which showed that 43.9% of samples were agreed that online

learning provides opportunity to create student's own learning environment and 68.3% of them said that there was lack of student and teacher interaction [25] & a similar study conducted by Linjawi Al et al which has shown that online learning method is an effective way to enhance student's learning .[27]

More than half of students (55.5%) were disagreed to "Student are able to gain practical knowledge through online classes" A study conducted among Nepal nursing students showed that 52.6% were disagreed that no specific preparation is needed but 36.8% were strongly agreed that students are unable to get practical knowledge.[21] More than half of students (58%) were agreed to "Online classes lack opportunities of student evaluation". Less than half of students (45%) were strongly agreed to "Online classes usually lead to more physical problems like fatigue, eye pain, and headache". A study was conducted on Indian nursing students which showed that 70.5% of samples has faced more physical problems. [25]

This study also showed a statistically significant association of perception with with continuation of online learning ($p=0.01$) and satisfaction regarding online learning ($p=0.01$) whereas there is no statistically significant association between respondent's perception and their age, gender, year of study and gadget used for attending online learning class.

6. Conclusion

COVID-19 pandemic has impacted the students learning. In order to make effective learning, online study was started by educational institutions. Hence based on study findings, it's concluded that efforts should be taken to make online teaching more interactive and functional which will create student's own learning environment. This will enhance the student's satisfaction level also. There is a great opportunity for universities and colleges to start improving the quality of the learning material that is used in the teaching and learning process.

7. Future Scope

Limitation

This study limited to nursing students only and all information provided participants are self reported. Therefore results of the study cannot be generalized.

Recommendation

To explore factors influencing students perception towards online learning and also explore the perception of faculties regarding their experience towards online learning during COVID 19 pandemic.

References

- [1] WHO. Coronavirus. Available from: https://www.who.int/health-topics/coronavirus#tab=tab_1
- [2] Vikas Pandey, Shadab Nazmi. COVID-19 in India: Why second coronavirus wave is devastating. BBC[Internet]. 2021 April 21[cited 2021 Apr 30]. Available from: <https://www.bbc.co.uk/news/world-asia-india-56811315>
- [3] Aggarwal A, Comyn P, Fonseca PM. Discussion: Continuing online learning and skills development in times of the COVID-19 crisis. 27 March-17 April. Available from : https://www.skillsforemployment.org/KSP/en/Discussions/EDMSP1_256625
- [4] Bączek, Michał, Zagańczyk-Bączek, Michalina Szpringer, Monika Jaroszyński, Andrzej, Woźakowska-Kapłon, Beata. Students' perception of online learning during the COVID-19 pandemic: A survey study of Polish medical students. *Medicine*: February 19, 2021 - Volume 100 - Issue 7 - p e24821
- [5] Blissitt AM. Blended learning versus traditional lecture in introductory nursing pathophysiology courses. *J Nurs Educ* 2016; 55:227-30.
- [6] Aslan H, Pekince H. Nursing students' views on the COVID-19 pandemic and their perceived stress levels. *Perspect Psychiatr Care*. 2020;8:1-7.
- [7] Bentley Y, Selassie H, Shegunshi A. Design and evaluation of student-focused E learning. *Electronic Journal of E-Learning*. 2012;10(1):1-12. Available from: <https://bit.ly/34DKDWE>
- [8] Eldeeb RA. Students' Perceptions to E-learning. *IOSR Journal of Research & Method in Education (IOSR-JRME)*. 2014; 4(3):33-36.
- [9] Zhang X. 4th International Conference on Culture, Education and Economic Development of Modern Society (ICCESE 2020) Atlantis Press; 2020. Thoughts on large-scale long-distance web-based teaching in colleges and universities under novel coronavirus pneumonia epidemic: a case of Chengdu University; pp. 1222-1225.
- [10] Cook D, Triola MM. What is the role of e-learning? Looking past the hype. *Med Educ* 2014;48:930-7
- [11] Salem AH. Randomized controlled trial of simulation-based teaching versus traditional clinical instructions in nursing: a pilot study among critical care nursing students. *Int J Nurs Educ* 2015;7:277.
- [12] Chumley-Jones HS, Dobbie A, Alford CL. Web-based learning: sound educational method or hype? A review of the evaluation literature. *Acad Med* 2002;77:86-93.)
- [13] Niebuhr V, Niebuhr B, Trumble J, et al. Online faculty development for creating E-learning materials. *Edu Health* 2014; 27: 255-61.
- [14] Dyrbye L, Cumyn A, Day H, et al. A qualitative study of physicians' experiences with online learning in a master's degree program: benefits, challenges, and proposed solutions. *Med Teach* 2009;31:40-6.
- [15] Bediang G, Stoll B, Geissbuhler A, et al. Computer literacy and e-learning perception in Cameroon: the case of Yaounde Faculty of Medicine and Biomedical Sciences. *BMC Med Edu* 2013;13:1-8.
- [16] Attardi SM, Rogers KA. Design and implementation of an online systemic human anatomy course with laboratory. *Anat Sci Educ* 2015;8:53-62.)
- [17] Abbasi S, Ayoob T, Malik A, Memon SI. Perceptions of students regarding E-learning during Covid-19 at a private medical college. *Pak J Med Sci*. 2020 May;36(COVID19-S4):S57-S61.
- [18] Daroedono E, Siagian FE, Alfarabi M, Cing JM, Arodes ES, Sirait RH, et al. The impact of COVID-19 on

medical education: our students perception on the practice of long distance learning. Int J Community Med Public Health. 2020; 7:2790-6.

- [19] Subedi S, Nayaju S, Subedi S, Shah SK, Shah JM. Impact of E-learning during COVID-19 pandemic among nursing students and teachers of Nepal. International Journal of Science and Healthcare Research. 2020;5(3):68-76. Available from: <https://bit.ly/34DB4XM>
- [20] Marshall J. Learning with technology. Evidence that technology can, and does, support learning. 2002;6:24-76.
- [21] Koirala D, Silwal M, Gurung S, Bhattarai M, Vikash Kumar KC. Perception towards Online Classes during COVID-19 among Nursing Students of a Medical College of Kaski District, Nepal. J Biomed Res Environ Sci. 2020 Oct 30; 1(6): 249-255.
- [22] Coopasami M, Knight S, Pete M. e-Learning readiness amongst nursing students at the Durban University of Technology. Health SA Gesondheid. 2017; 22:300-6.
- [23] Ali W. Nursing students readiness for e-learning experience. Gynecol Obstet. 2016; 6:1-5.
- [24] Morcillo AJ, Costa C, García JE, Martínez M. Experiences of nursing students during the abrupt change from face-to-face to e-learning education during the first month of confinement due to COVID-19 in Spain. Int J Environ Res Public Health. 2020;17(15):5519-24.
- [25] Kaur Simarjeet and Sharma Anjali. Online classes of nursing students during lockdown (covid pandemic): perception and issues. International journal of Advanced research. 2020;8(08), 494-500
- [26] Almaghaslah D, Ghazwani M, Alsayari A, Khaled A. Pharmacy students' perceptions towards online learning in a Saudi Pharmacy School. Saudi Pharm J. 2018 Jul; 26(5):617-621.
- [27] Linjawi AI, Alfadda LS. Students' perception, attitudes, and readiness toward online learning in dental education in Saudi Arabia: a cohort study. Advances in Medical Education and Practice. 2018;9 :855-863.

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