

Impact of Covid-19 Pandemic and Students' Perceptions on Online Education among Selected Nursing Students of Arya Nursing College, Changsari, KAMRUP (R), ASSAM.

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Abstract:

Background: Corona Virus Disease (COVID-19) is an infectious disease caused by a newly discovered corona virus. The outbreak of COVID-19 affected the lives of all sections of society among all age group around the world. Several safety measures were adopted to break the chain of transmission of the virus and even complete lockdown was imposed in many countries. This nationwide closure adversely affected educational activities of more than 80% of students; thus online learning platform was introduced. E-learning wave is a recent development; teachers as well as students are in the process of adapting this new teaching learning methodology. Thus knowing the opinion of learners towards this new methodology is important.

Materials and Methods: A correlational descriptive study was conducted among 139 samples from 1st year, 2nd year, 3rd year and 4th year B Sc Nursing students of Arya Nursing College, Changsari, Kamrup, Assam by using simple random sampling technique; lottery method (without replacement). Self structured questionnaires were used to collect the data and data were analyzed using both descriptive and inferential statistics using both Microsoft excel and SPSS.

Results: The study findings shows that out of 139 samples, 74 (53%) had positive impact of COVID-19 on online education and 65 (47%) had negative impact of COVID-19 on online education. Results also revealed that 75 (54%) had negative perception and 64 (46%) had positive perception towards online education. Pearson's correlation shows a negative correlation ($r=-.17$, $p<0.05$) between impact of COVID-19 and student's perception on online education. Chi-square results revealed no association between student's perception and selected demographic variables.

Conclusion: The study revealed that majority of the students had positive impact of COVID-19 Pandemic and majority of the students had negative perception towards online classes.

Keyword: COVID-19, Pandemic, Online Education, Nursing Students.

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I. Introduction

Corona Virus Disease (COVID-19) is an infectious disease caused by a newly discovered corona virus. The first human case of COVID-19, subsequently named SARS-CoV-2 was first reported by officials in Wuhan City, China, where it was originated in December 2019. As of January 30, 2020, a total of 9976 cases had been reported in at least 21 countries.¹ The outbreak of COVID-19 affected the lives of all sections of society as people were asked to self-quarantine in their homes to prevent the spread of the virus. These restrictions were established to reduce the spread of SARS-CoV-2, the virus that causes COVID-19. By April 2020, about half of the world's population was under some form of lockdown, with more than 3.9 billion people in more than 90 countries or territories having been asked or ordered to stay at home by their governments.² The outbreaks of infectious diseases have prompted widespread educational institutions closing around the world, with varying levels of effectiveness. The education sectors of India as well as world are badly affected. It has enforced the world wide lockdown creating very bad effect on the students' life. The lockdown has compelled many educational institutions to cancel their classes, examinations, internships etc, and to choose the online modes.³

According to the World Economic Forum, there is evidence that learning online can be more effective in a number of ways and shows that on average, students retain (25-60) % more material when learning online compared to only (8-10) % in a classroom. This is mostly due to the students being able to learn faster online; e-learning requires (40-60)% less time to learn than in a traditional classroom setting because students can learn at their own pace, going back and re-reading, skipping, or accelerating through concepts as they choose.⁴

II. Material And Methods

A correlational descriptive study was conducted among 139 B Sc Nursing students from 1st year, 2nd year, 3rd year and 4th year B Sc Nursing students of Arya Nursing College, Changsari, Kamrup, Assam by using simple random sampling technique; lottery method (without replacement).

Study Design: Correlational Descriptive Study

Study Location: Arya Nursing College, Changsari, Kamrup (R) Assam

Study Duration: 15/09/2021 to 20/09/2021 (15th September 2021 to 20th September 2021)

Sample Size: 139 Nursing Students.

Sample size calculations: In the present study, out of 213 numbers of B.Sc. Nursing Students studying in Arya Nursing College, 139 participants were selected by using Slovin's formula. i.e $n = N / (1 + Ne^2)$: where N is the total number of population, e is the margin of error.

Slovin's Formula:

$$n = N / (1 + Ne^2)$$

$$= 213 / (1 + 213(0.05)^2)$$

$$= 138.99$$

$$= 139$$

Subjects & Selection method: After getting administrative permission from the Principal and from each batches of the coordinators, list of all the B.Sc nursing students were collected and their names were entered in excel sheet according to their roll numbers and year of batches. According to their names, sample code was given to each of the participants. 213 chits were made based on the sample code numbers given then each number is placed inside a bowl and blended in a thorough manner and 139 chits were randomly picked out and sample was achieved.

Inclusion criteria:

- All the batches of B Sc Nursing course of Arya Nursing College.
- Both male and female students of Arya Nursing College Changsari, Kamrup, Assam.

Exclusion criteria:

- Those who are not willing to participate in the research study.
- Those who are not available during the time of data collection.

Procedure Methodology

For data collection, administrative permission was obtained from the Principal of Arya Nursing College, Changsari, Kamrup (R), Assam. After getting the consent from the Principal, formal written permission was then obtained from Co-ordinators from all the years of B.Sc. nursing course of Arya Nursing College, Changsari, Kamrup (R), Assam and student list was collected. A self-structured questionnaire on impact of COVID-19 and students' perception on online education was administered to the participants. The questionnaire comprises of demographic variables such as age (in years), gender, present academic year of study, type of family, area of residence, monthly family income, attending online courses earlier, type of network coverage,

type of internet connection, types of gadgets used, hours of internet used per day, platform prefer for attending online classes.

Statistical analysis

Data collected to be analysed by using Microsoft excel sheet and the Statistical Package for Social Sciences. Descriptive statistics i.e. frequency, percentage, mean and Standard deviation to be used to assess selected variables. Inferential statistics like Pearson's correlation for finding correlation between impact of online education and students' perception on online education and chi square test to find out the association of selected demographic variables with students' perception.

III. Result

The findings of the study were presented under the following sections:

Section I: Description of selected demographic variables in frequency and percentage.

Section II: Assessment of impact of Covid-19 on online education.

Section III: Assessment of students' perception on online education.

Section IV: Correlation between impact of COVID-19 and students' perception on online education.

Section V: Association between students' perception on online education with selected demographic variables.

Section I: Description of selected demographic variables in frequency and percentage.

Table 1: Description of selected demographic variables in frequency and percentage.

n=139

Demographic variable	Characteristics	Frequency	Percentage
Age in years	18-19	30	22
	20-21	70	50
	22-23	36	26
	Above 23	3	2
Gender	Male	4	3
	Female	135	97
Year of batches	B Sc nursing 1 st year	54	39
	B Sc nursing 2 nd year	32	23
	B Sc nursing 3 rd year	32	23
	B Sc nursing 4 th year	21	15
Type of family	Nuclear	121	87
	Joint	17	12
	Extended family	1	1
Area of residence	Urban	52	37
	Rural	87	63
Monthly family income	≤Rs. 20000	22	16
	Rs. 20001-30000	19	14
	RS.30001-40000	36	26
	≥Rs.40001	62	45
Attending online courses earlier	Yes	84	60
	No	55	40
Type of network coverage	Good	34	25
	Average	77	55
	Poor	28	20
Type of internet connection	WIFI	6	4
	Cellular data	92	66
	Combination of both	41	30
Types of gadget used	Smartphone	133	96

	Tablet	5	3
	Laptop	1	1
Hours of internet use per day	2-4 hours	33	24
	5-7 hours	64	46
	8-10hours	26	19
	Above 10 hours	16	11
Platform prefer for online class	Whats App	47	34
	Zoom Meetings	36	26
	Webex Meet	17	12
	Google classroom	36	26
	Any other	3	2

Section II: Assessment of impact of COVID-19 on online education.

Table 2.1 shows the impact of COVID 19 on online education where majority of the respondents 114 (82%) agreed that technological insufficiency has affected their online learning, 110 (79%) respondents agreed that online education has affected their eye sight, 101 (73%) have sense of loneliness because of less interaction, 109 (78%) disagreed that financial issues within the family affected their online education, 114 (82%) have poor network coverage , 99 (71.2%) disagreed sharing of gadgets among their siblings for online classes has interrupted learning, 76 (55%) have lack of concentration, 99 (71%) were unable to clarify their doubts during online classes, 74 (53%) have disagreed that attending online classes is difficult due to family problems, 130 (94%) were concerned about their practical skills due to lack of clinical practices.

Table2.1: Frequency and Percentage distribution of Impact of COVID-19 on Online Education.

n=139			
Sl. No	Statement	Yes (%)	No (%)
1.	Technological insufficiency on my part has affected my online learning.	114 (82%)	25 (18%)
2.	Online education has affected my eye sight.	110 (79%)	29 (21%)
3.	Online education brings a sense of loneliness because of less interaction.	101 (73%)	38 (27%)
4.	Financial issueswithin the family have affected my online education.	30 (22%)	109 (78%)
5.	Due to poor network coverage it is difficult to attend online classes regularly.	114 (82%)	25 (18%)
6.	Sharing of gadgets among my siblings for online classes has interrupted my learning.	40 (29%)	99 (71%)
7.	I have lack of concentration while attending online classes due to various medias such as games, social media etc.	76 (55%)	63 (45%)
8.	I am unable to clarify my doubts during online classes due to decrease interaction with the teacher.	99 (71%)	40 (29%)
9.	Attending online classes is difficult due to family problems at home.	65 (47%)	74 (53%)
10.	I am concerned about my practical skills due to lack of clinical practices.	130 (94%)	9 (6%)

Table 2.2: Overall impact of COVID-19 on online education.

Table 2.2 shows the overall impact of COVID-19 on online education among the selected nursing students. It shows that majority74 (53%) of the students have positive impact on online education and 65 (47%) have negative impact on online education.

n=139		
Impact	Frequency	Percentage (%)
Positive	74	53
Negative	65	47
Total	139	100

Section III: Assessment of students' perceptions on online education.

Table 3.1 shows the students' perception on online education where majority of the respondents 48 (34%) disagreed that online classes are easier than conventional classes, 54 (39%) were uncertain that well prepared materials are easily accessible through online learning, 61 (44%) were uncertain that online educations helps in learning at their own pace, 59 (42%) disagreed learning from home, 40 (29%) were uncertain about asking questions through online mode, 64(46%) agreed that it is difficult to learn social skills through online mode, 46 (33%) disagreed lack of self discipline, which affects online learning, 46 (33%) uncertain that online learning is not economic and it increases the cost of learning, 67 (48%) agreed digital/E-learning/online mode is not a fair platform for assessment or evaluation, 54 (39%) agreed combination of virtual method and conventional teaching after pandemic is over.

Table 3.1: Frequency and Percentage distribution of Students Perceptions on online education

Sl. No	Statement	SD	D	N	A	SA
1	Online classes are easier than conventional classes.	19(14%)	48(34%)	44(32%)	26(19%)	2(1%)
2	Well prepared materials are easily accessible through online learning.	16(11%)	14(10%)	54(39%)	43(31%)	12(9%)
3	Online educations helps in learning at my own pace	5 (4%)	22(16%)	61(44%)	47(34%)	4(2%)
4	I prefer learning from home than conventional class	17(12%)	59(42%)	26(19%)	34(25%)	3(2%)
5	I am not comfortable asking questions through online mode	11(8%)	32(23%)	40(29%)	38(27%)	18(13%)
6	It is difficult to learn social skills, like empathy, attitude etc through online mode.	13(9%)	12(9%)	39(28%)	64(46%)	11(8%)
7	I have lack of self discipline, which affects my online learning	10(7%)	46(33%)	36(26%)	43(31%)	4(3%)
8	Online learning is not economic and it increases the cost of learning.	9(7%)	32(23%)	46(33%)	42(30%)	10(7%)
9	Digital/E-learning/online mode is not a fair platform for assessment or evaluation	8(6%)	9(6%)	43(31%)	67(48%)	12(9%)
10	I prefer combination of virtual method and conventional teaching after pandemic is over.	12(8%)	15(11%)	32(23%)	54(39%)	26(19%)

Table 3.2: Overall scoring of perception of nursing students towards online classes.

Table 3.2 shows the perception of nursing students towards online classes. The possible perception score ranges from 10-50 the study result shows that mean perception score was 29.07 (58.14%), median perception score was 29 (58%) and standard deviation was 3.5 (7%).
n=139

Variable	Possible score	Mean	Median	Standard deviation (S.D.)
Overall perception score	10-50	29.07	29	3.5
Percentage of scoring of perception	20-100%	58.14 %	58%	7%

Table 3.3: Overall level of perception of nursing students towards online classes.

Table 3.3 shows the overall perception of nursing students towards online classes. It shows that more than half of the majority 75 (54%) had negative perception towards online classes and 64 (46%) had positive perception towards online classes.

n=139

Level of perception	Number of students	Percentage (%)
Positive perception	64	46
Negative perception	75	54
Total	139	100

Section IV: Correlation between impact and perception of nursing students towards online classes.

Table 4.1: Correlation between impact of COVID-19 with perception of nursing students towards online classes.

Table 4.1 shows that Pearson's correlations revealed a negative correlation ($r=-.17$) between impact of COVID-19 with students' perception on online education (significant at 0.05 level).

n=139

Variables	Pearson correlation (r)
Impact of COVID-19	-.17
Perception of nursing students	-.17

Significant at 0.05 level (2-tailed)

Section V: To determine the association between students' perception with selected demographic variables.

This section presents the findings on the association between student's perception and selected demographic variables i.e. age, gender, year of batches, type of family, area of residence, monthly family income, attended any online courses, type of network coverage, type of internet connection, types of gadgets used, hours of internet use per day and platform used for online classes. Chi-square test was computed to examine the association between student's perception and selected demographic variables.

Table5.1: Findings related to association between students' perception with selected demographic variables.

n=139

Variables	Perception		Total	χ^2	df	p value	Remarks
	Positive	Negative					
1. Age(in years)							
18-19years	1	29	30	2.4	3	7.82	NS
20-21years	7	63	70				
22-23years	5	31	36				
Above 23years	0	3	3				
2. Gender							
Male	0	4	4	0.5	1	3.84	NS
Female	13	122	135				
3. Present academic year of study							
B.Sc Nursing 1 st year	5	49	54	6.9	3	7.82	NS
B.Sc Nursing 2 nd year	1	31	32				
B.Sc Nursing 3 rd year	6	26	32				
B.Sc Nursing 4 th year	1	20	21				
4. Type of family							
Nuclear	13	108	121	2.1	2	5.99	NS
Joint	0	17	17				
Extended family	0	1	1				
5. Area of residence							
Urban	6	46	52	0.47	1	3.84	NS
Rural	7	80	87				

Variables	Perception		Total	χ^2	df	p value	Remarks
	Positive	Negative					
6. Monthly family income							
≤Rs 20000	2	20	22	2.4	3	7.82	NS
Rs20001-30000	0	19	19				
Rs30001-40000	4	32	36				
≥Rs40001	7	55	62				
7. Attending any online courses earlier							
Yes	5	79	84	2.9	1	3.84	NS
No	8	47	55				
8. Type of network coverage							
Good	3	31	40	1.8	2	5.99	NS
Average	5	72	66				
Poor	5	23	33				
9. Type of internet connection							
WIFI	0	6	6	2.3	2	5.99	NS
Cellular data	11	81	92				

Combination of both	12	39	41				
10. Types of gadgets used-							
Smartphone	13	120	133	0.7	2	5.99	NS
Tablet	0	5	5				
Laptop	0	1	1				
11. Hours of internet use/ day							
2-4 hours	4	29	33	3.1	3	7.82	NS
5-7 hours	5	59	64				
8-10 hours	1	25	26				
Above 10 hours	3	13	16				
12. Platform preferred for attending online classes							
Whatsapp	5	42	47	8.3	4	9.49	NS
Zoom meetings	1	35	36				
WebEx Meet	0	17	17				
Google Classroom	7	29	36				

The above table shows the computed chi square value between students' perception with selected demographic variables. The study results shows no association between perception of students towards online classes with the selected demographic variables like age, gender, year of batches, type of family, area of residence, monthly family income, attended any online courses, type of network coverage, type of internet connection, types of gadgets used, hours of internet use per day and platform used for online classes

IV. Discussion

The present study was conducted on "Impact of COVID-19 Pandemic and Students' Perceptions on Online Education among selected Nursing students of Arya Nursing College, Changsari, Kamrup, Assam". Correlational descriptive research design was selected and simple random sampling technique (lottery method) was undertaken to select the samples on the basis of inclusion and exclusion criteria. During the course of literature review many articles and journals were searched. The findings of the study were compared and contrasted with those of the other study.

The findings were discussed on the basis of objectives of the research study:-

i. To assess the impact of COVID-19 on online education among selected nursing students-

It has been found out that majority of the respondents 114 (82%) agreed that technological insufficiency has affected their online learning, 110 (79.1%) respondents agreed that online education has affected their eye sight, 101 (72.7%) have sense of loneliness because of less interaction, 109 (78.4%) disagreed that financial issues within the family affected their online education, 114 (82%) have poor network coverage, 99 (71.2%) disagreed sharing of gadgets among their siblings for online classes has interrupted learning, 76 (54.7%) have lack of concentration, 99 (71.2%) were unable to clarify their doubts during online classes, 74 (53.2%) have disagreed that attending online classes is difficult due to family problems, 130 (93.5%) were concerned about their practical skills due to lack of clinical practices. The overall impact of COVID-19 on online education among the selected nursing students shows that majority 74 (53%) of the students have positive impact on online education and 65 (47%) have negative impact on online education.

The result is supported by similar studies conducted by Ma Z, Idris S (2021) who conducted a cross sectional descriptive study on impact of COVID-19 pandemic outbreak on education and mental health of Chinese children aged 7-15 years. A total of 668 parents across different regions of China were included through purposive sampling technique. Descriptive statistics analysis was used to demonstrate the demographic characteristics of the participants. Results indicate that Overall 79.8% respondents are satisfied and children can adapt to this new education system.⁵

ii. To assess the perception of nursing students towards online education.

The findings of the present study shows that out of 139 students, majority of the respondents 48(34.5%) disagreed that online classes are easier than conventional classes, 54(38.8%) were uncertain that well prepared materials are easily accessible through online learning, 61(43.9%) were uncertain that online educations helps in learning at their own pace, 59(42.4%) disagreed learning from home, 40(28.8%) were uncertain about asking questions through online mode, 64(46%) agreed that it is difficult to learn social skills through online mode, 46(33.1%) disagreed lack of self discipline, which affects online learning, 46(33.1%) uncertain that online learning is not economic and it increases the cost of learning, 67(48.2%) agreed digital/E-learning/online mode is not a fair platform for assessment or evaluation, 54(38.8%) agreed combination of virtual method and conventional teaching after pandemic is over. The overall perception of nursing students towards online classes shows that more than half of the majority 75 (54%) had negative perception towards online classes and 64 (46%) had positive perception towards online classes.

The study findings are supported by similar studies conducted by Nambair D (2021) on the impact of online learning during COVID-19: students' and teachers' perspective among 70 teachers and 470 students from colleges and universities in Bangalore city. A quantitative, cross sectional descriptive study was carried out and analyzed using 3 point Likert scale. Results on students' perception revealed that 54.9% disagreed that online classes are more effective than classroom mode, 60.4% agreed that there is lack of interaction during online classes, 79.8% agreed that quality of discussion is low in online classes, 68.2% disagreed that learning and knowledge transfer happens more in online classes, 70.6% agreed that online classes are less structured than classroom mode.⁶

iii. To find the correlation between impact of COVID-19 and student's perception on online education.

It was found that the correlation between impact and perception was -0.17 at 0.05 level of significance, which indicated that there was a negative correlation between impact of COVID-19 and students' perception on online education. The significant of this negative correlation was tested using Pearson correlation.

The study findings are supported by similar studies conducted by Rohmani N. and Andriani R. (2020) on a correlational study to find out the relationship between academic self efficacy and burn-out in first year nursing students who participated in distance learning during the COVID-19 pandemic among nursing students of Jnderal Achmad Yani University in Yogyakarta, Indonesia. 69 samples were selected using an α error probability of 0.05 for the study. Self efficacy and burn-out questionnaires were used via email and social media for data collection in September, 2020. The study shows a strong negative correlation ($r=-0.884$, $p\leq 0.001$) between academic self efficacy and burn out.⁷

iv. To determine the association between students' perception with selected demographic variables.

The study was conducted to determine the association between student's perception with selected demographic variables such as age (in years), gender, academic year of study, type of family, area of residence, monthly family income, attending online courses earlier, type of network coverage, type of internet connection, types of gadgets used, hours of internet used per day, platform prefer for attending online classes. It was found out that there was no significant association between student's perception on online education with the selected demographic variables.

The study findings are similar to a study conducted by Sasmal S, Roy M. (2021) on a cross sectional web-based survey to find out the perception of undergraduate nursing students regarding e-learning during COVID-19 pandemic in West Bengal. 327 samples were selected using snowball sampling. Data were collected using Google form. The study result shows that e-learning has no association with demographic variables such as age, academic year of study, internet usage before lockdown, previous experience of attending e-learning sessions through internet, knowledge of institutional access to internet, computer lab, e-journal, previous experience of accessing institutional internet, gadgets used to attend e-learning sessions and ownership of the gadget used.⁸

V. Conclusion

The study conducted on selected B Sc Nursing Students' of Arya Nursing College, Changsari, Assam revealed that majority of the students had positive impact of COVID-19 Pandemic and majority of the students had negative perception towards online classes. Karl Pearson's formula was used to find out the correlation between impact and perception and shows a negative correlation. Chi square shows there is no significant association between student's perception with the selected demographic variables, that is, age (in years), gender, academic year of study, type of family, area of residence, monthly family income, attending online courses earlier, types of gadgets used, type of network coverage, type of internet connection hours of internet used per day, platform prefer for attending online classes.

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