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"CHALLENGES OF EMERGENCY REMOTE LEARNING FACED BY NURSING STUDENTS DURING COVID-19"

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Abstract:

During the year 2020 educational institutions worldwide promptly responded to the pandemic Covid - 19, by going online. One of the teaching-learning methods known as Emergency Remote Learning (ERL) was adopted by academic institutes. The effectiveness or impact of ERL on students was dependent on consistent access to the internet and computers, teachers' ability to conduct online classes, and students' attitudes towards online learning. **Methodology:** A descriptive study was undertaken to find out the challenges of Emergency Remote Learning (ERL) faced by nursing students during Covid - 19 pandemic. A total of 487 students from GNM, Basic B.Sc. (N), Post Basic B.Sc. (N), and M.Sc. (N) were included in the study as study samples. Responses were collected through Google form on selected background variables and a rating scale with 5 points Likert scores with strongly disagree, disagree, neutral, agree, and strongly agree on the items in logistics, psychological, social, personal, physical, environmental, content of lecture, learning management systems and teacher component of emergency remote learning. The analysis was done by using the One Sample Proportion Test and Chi–Square test. **Conclusion:** It was concluded that students were facing the environmental, social, personal, and physical challenges of emergency remote learning during Covid - 19.

Keywords: *Emergency Remote Learning (ERL), Challenges, Nursing students, Covid -19.*

Introduction: The Covid-19 declared a pandemic by the World Health Organization on 12th March 2020, made all human beings' distance themselves socially to prevent or contain the spread of the virus. Almost all the countries opted to close colleges and schools to prevent the spread of infection between students and their families. This closure necessitated the continuance of the teaching-learning activities using the emergency remote learning method.

Emergency remote learning is defined as "a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances' (1). We were entering uncharted territory and working with countries to find hi-tech, low-tech, and no-tech solutions to assure the continuity of learning (2).

The same restrictions were extended to nursing colleges nursing faculty and nursing students from 30th March 2020 to 31st December 2020. So we had to go in for emergency remote teaching-learning mode with very little knowledge and preparation. Though we were using online learning in an asynchronized and synchronized fashion to teach certain modules like Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM), and Soft Skills training, we used it as supplementary for these modules and learning value-added courses, not as the only method of regular teaching and learning activities for learning theory and practical curriculum. The nursing curriculum was delivered till then on the traditional mode of face-to-face learning in the classrooms and clinical areas.

Besides that, we had to ensure that students had adequate textbooks and reference materials to learn from online mode at home. The textbooks were converted to PDF format and were sent to the students through online mode. Almost all the libraries and publishing houses provided free educational materials and resources for online learning leading to an abundance of material confusing both faculty and students as to what to choose from. We had to stick to reference books prescribed by the University and Board.

As adults studying in a professional institute, all the students possessed a smartphone to connect with their fellow students and faculty for their regular learning so, almost all the students had the required device for learning. However, these devices came in various shapes, sizes, and capacities. This posed numerous issues of physical fatigue, eyesight issues, lack of internet speed, etc. Almost all the students had to purchase data packs or data cards to access internet connections for regular communication through WhatsApp groups.

A study done in Pakistan on medical, and dental institutes on the advantages and limitations of using online learning found that online learning was a flexible and effective source that allowed students to become self-directed learners, although they faced the disadvantage of inability to teach and learn their practical skills and clinical work through online education, also students expressed the need for immediate feedback from teachers (3).

We as faculty faced enormous challenges in terms of technology, knowledge, skill, policy, and governance related to emergency remote teaching and learning. We adopted G-Suite and Google Classrooms as a viable option. Our faculty had to be sent for training about Google Classrooms. The faculty became confident and started using it with comfort whereas what and how our students faced these challenges sitting at their homes with this emergency remote learning was unexplored. Therefore, it was important to explore the challenges related to emergency remote learning so that this awareness will bring about needed modifications that are essential to face any such crisis in the future. This Covid - 19 crisis is the sole reason for the experimentation of remote learning in our nursing students. Therefore, this study as a systematic approach to understanding the challenges faced by nursing students with emergency remote learning will help for future investment, planning, and delivery of ERL if necessary.

So, this study will highlight the challenges faced by nursing students with ERL, so that steps for planning, preparing, and training, faculty with current technologies along with clear guidelines for both faculty and students so that more interactive multimedia materials and activities in line with the nursing curriculum can be made and used as a supplementary method to face-to-face learning in a crisis and also as a method of substitution to regular traditional mode to break the monotony.

Learning is not just a transfer of information from the faculty to the student, but it is a social psychological, and attitudinal process where all these factors interplay in increasing the learning outcomes. So that for future emergencies such as this, more engaging, powerful educational activities, games, and learning environments that are cost-effective and permanent are made and kept ready for use.

Aim of the Study:

The study aims to identify and analyze the challenges of emergency remote learning based on experiences of the nursing students during Covid-19 emergency.

Objectives:

1. To analyze the challenges of emergency remote learning activities of nursing students during the Covid-19 emergency first wave.
2. To associate the challenges of emergency remote learning with selected background variables during Covid-19.

Hypotheses:

1. $H_{01:}$ Students are not facing challenges of emergency remote learning during covid-19 emergency first wave at 0.05 level of significance.
2. $H_{02:}$ There is no association between the background variables and technological challenges.

The Tool:

The tool had two sections. The first section dealt with the background variables such as age, area of residency, nursing program, year of the program, previous year's score, monthly income of the family, device used for emergency learning, whether they shared the device, the type of net connection, the quality of net connection, the teacher ratio, and a brief note on their experience with Emergency Remote Learning. The second section was a rating scale with 5-point Likert scores with strongly disagree, disagree, neutral, agree, and strongly agree on the items in logistics, psychological, social, personal, physical, environmental, content of lecture, learning management systems, and teacher component of emergency remote learning.

Sample: Nursing students from ANM, GNM, Basic B.Sc. (N), Post Basic B.Sc. (N), and M.Sc. (N) from selected nursing institute.

Data collection process: Data was collected after obtaining the consent of the samples through Google Forms.

Analysis and Interpretation

Table 1: Demographic criteria frequency and percentage N = 487

S.N.	Demographic criteria	Frequency (*f*)	Percentage (%)
1	**Age in years**		
	18-21	342	70.23
	22- 25	118	24.23
	26- 29	18	3.70
	30 -33	9	1.85
2	**Area of Residency**		
	Rural	164	33.68
	Urban	323	66.32
3	**Nursing Program**		
	GNM Nursing	217	44.56
	Basic B.Sc. Nursing	204	41.89
	P.B.B.Sc Nursing	59	12.11
	M.Sc. Nursing	7	1.44
4	**Educational Year**		
	First	145	29.77
	Second	137	28.13
	Third	147	30.18
	Fourth	58	11.91
5	**Monthly Family Income in Rs.**		
	Less than Rs.5000/-	140	28.75
	Rs.5001/- to 15000/-	195	40.04
	Rs.15001/- to 25000/-	73	14.99
	More than 25001/-	79	16.22
6	**Device used for emergency remote learning**		
	Laptop	3	0.62
	Mobile	462	94.87
	Combination (Specify)	6	1.23
	All of the above	16	3.29
7	**Have a Smartphone for emergency remote learning**		
	Own	443	90.97
	Parents	31	6.37
	Sibling sharing	13	2.67
8	**Internet Facility for emergency remote learning**		
	Data pack	295	60.57
	Internet	163	33.47
	Wi-Fi	29	6.16
9	**Internet connection speed for emergency remote learning**		
	Fair	91	18.69
	Very good	30	6.16
	Good	328	67.35
10	Poor	38	7.80
	Teacher student's number for emergency remote learning		
	< 35	154	31.62
	36-99	306	62.83
	> 100	27	5.54

From the above table, the distribution of subjects as per age shows 342 subjects (70.23%) belong to the age group of 18 to 21 years, 118 subjects (24.23%) belong to the age group of 22 to 25 years, 18 subjects (3.70%) belong to the age group 26 to 29, 9 subjects (1.85%) belong to the age group 30 to 33 years.

The distribution of subjects as per area of residency shows 164 subjects (33.68%) live in the urban region and 323 subjects (66.32%) live in the rural region.

The distribution of subjects as per the nursing program shows 217 subjects (44.56%) belong to the GNM nursing program, and 204 subjects (41.89%) belong to the Basic B.Sc. Nursing program, 59 subjects (12.11%) belong to the P.B. BSc. the program and 7 subjects (1.44%) belong to the M.Sc. Nursing.

As per educational year, it shows that 145 subjects (29.77%) are pursuing the first year, 137 subjects (28.13%) are pursuing the second year, 147 subjects (30.18%) are pursuing the third year and 58 subjects (11.91%) are pursuing the fourth year.

The distribution of subjects as per monthly family income in Rs. shows 140 subjects (28.75%) have monthly family income less than 5000/-, 195 subjects (40.04%) have monthly family income between 5001/- to 15,000/-, 73 subjects (14.99%) lie in between 15,001/- To 25,000/- and 79 subjects (16.22%) have monthly family income more than 25,001/-.

The distribution of subjects as per device used for emergency remote learning shows 3 subjects (0.62%) said that they used a laptop for emergency remote learning, 462 subjects (94.87%) said that they used mobile for emergency remote learning, 6 subjects (1.23%) says that they used combination for emergency remote learning and 16 subjects (3.29%) says that they used all the above for emergency remote learning.

The distribution of subjects as per the usage of smartphone for emergency remote learning shows that 443 subjects (90.97%) use their smartphone, 31 subjects (6.37%) says that they use their parent's smartphone, and 13 subjects (2.67%) says that they use their siblings' smartphone for emergency remote learning.

The distribution of subjects as per they have an internet facility for emergency remote learning shows 295 (60.57%) used a data pack facility, 163 subjects (33.47%) used an internet facility and 29 subjects (6.16%) used a Wi-Fi facility for emergency remote learning.

The distribution of subjects as per internet connection speed shows 91 subjects (18.69%) have fair internet connection speed, 30 subjects (6.16%) have very good internet connection speed, 328 subjects (67.35%) have good internet connection speed and 38 subjects (7.80%) have poor internet connection speed.

The distribution of subjects as per teacher students' number for emergency remote learning shows 154 subjects (31.62%) that there are less than 35, 306 subjects (62.83%) says that there are between 36 to 99, 27 subjects (5.54%) say that there were more than 100 for emergency remote learning.

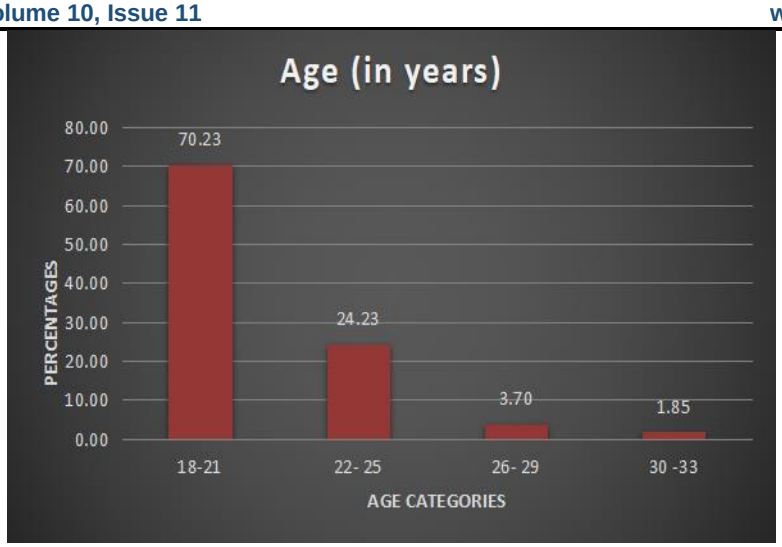

Fig1: Bar diagram showing the distribution of subjects according to Age (in years) using percentage

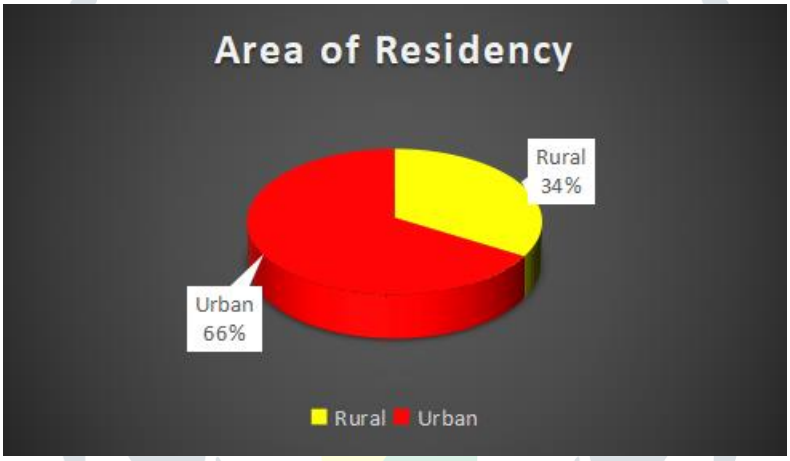

Fig 2: Pie diagram showing the distribution of subjects according to Area of residency using percentage.

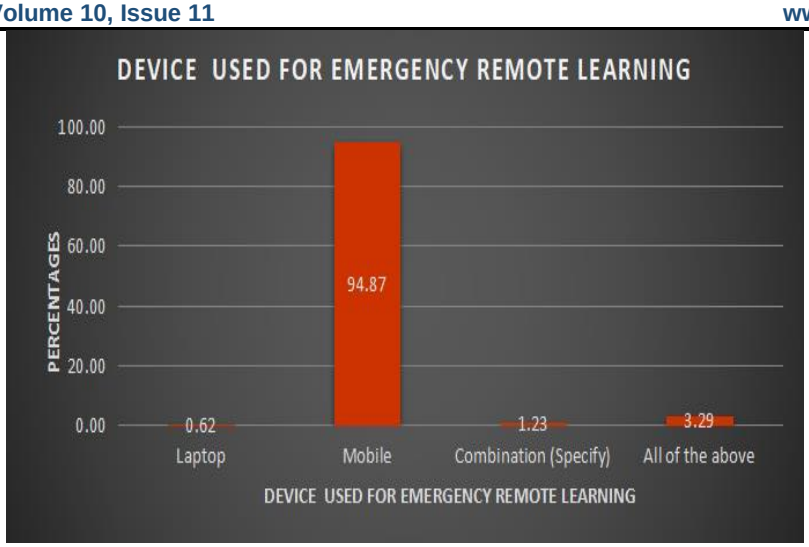

Fig 3: Bar diagram showing the distribution of subjects according to Device used for emergency remote learning using percentage.

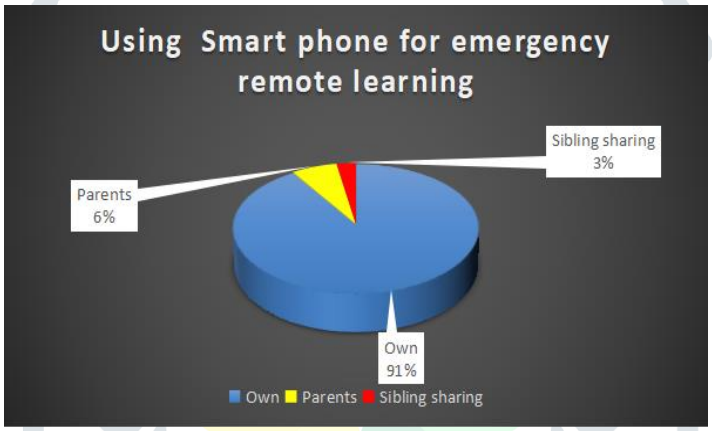

Fig 4: Pie diagram showing the distribution of subjects according to the Use of smartphones for emergency remote learning using percentage.

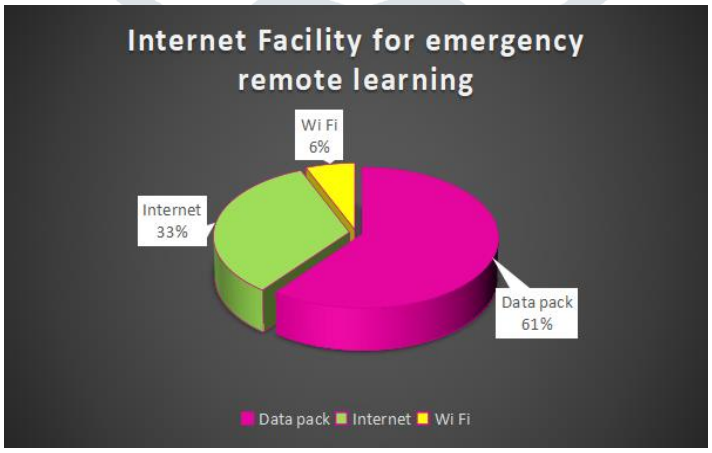

Fig 5: Pie diagram showing the distribution of subjects according to Internet Facility for emergency remote learning using percentage.

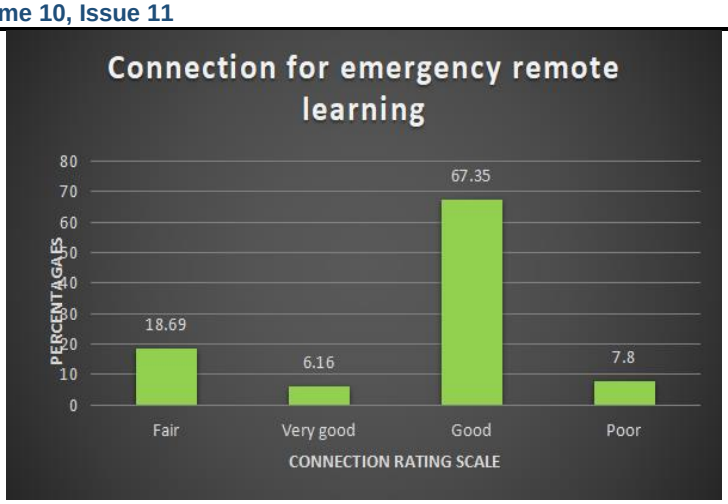

Fig 6: Bar diagram showing the distribution of subjects according to Internet connection facility for emergency remote learning using percentage.

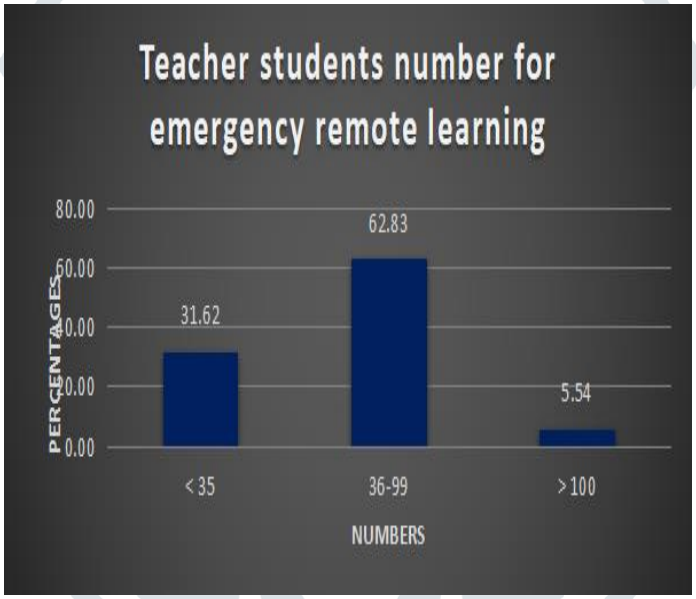

Fig 7: Bar diagram showing the distribution of subjects according to Teacher students' number for emergency remote learning using percentage.

Table 2: Analysis of the challenges of emergency remote learning activities of nursing students during covid-19 emergency first wave using the One Sample Proportion Test.

N=487

Sr. No	Assessment of the effectiveness of emergency remote learning activities	One sample proportion test statistic value	p Value
1.	Technology	125.2332016	.000**
2.	Psychology	117.8307087	.000**
3.	Content	242.192691	.000**
4.	Learning Management System (LMS)	189.7620482	.000**
5.	Teachers' component	318.2284123	.000**
6	Social	342.002907	1.000

7	Personal	397.0025063	1.000
8	Physical	387.0025707	1.000
9	Environmental	255.6981132	1.000

According to the above table, the distribution of subjects for assessment of the effectiveness of emergency remote learning activities based on the technology challenge using proportion test statistic = 125.2332016 and p-value = 0.000. As $p < 0.05$, it shows that more than 50% of students are not facing the technology challenge. The distribution of subjects for assessment of the effectiveness of emergency remote learning activities based on the psychological challenges using proportion test statistic = 117.8307087 and p-value = 0.000. As $p < 0.05$, it shows that more than 50% of students are not facing psychological challenges. The distribution of subjects for assessment of the effectiveness of emergency remote learning activities based on the content challenge using proportion test statistic = 242.192691 and p-value = 0.000. As $p < 0.05$, it shows that more than 50% of students are not facing the content challenge. The distribution of subjects for assessment of the effectiveness of emergency remote learning activities based on the Learning Management System (LMS) challenge using proportion test statistic = 189.7620482 and p- p-value = 0.000. As $p < 0.05$, it shows that more than 50% of students are not facing the Learning Management System (LMS) challenge. The distribution of subjects for the Assessment of the effectiveness of emergency remote learning activities based on the Teachers' component challenge using proportion test statistic = 318.2284123 and p-value = 0.000. As $p < 0.05$, it shows that more than 50% of students are not facing the teachers' component challenge.

Researchers accept the null hypothesis i.e., the proportion of students who are not facing the challenges of emergency remote learning during covid-19 emergency first wave is greater than 0.5 (Technology, Psychology, Content, Learning Management System (LMS) and Teachers Component) at the 0.05 level of significance.

According to the above table, the distribution of subjects for assessment of the effectiveness of emergency remote learning activities based on the social challenge using proportion test statistic = 342.002907 and p-value = 1.000. As $p > 0.05$, it shows that 50% of students are facing social challenges. The distribution of subjects for assessment of the effectiveness of emergency remote learning activities based on the personal challenge using proportion test statistic = 397.0025063 and p-value = 1.000. As $p > 0.05$, it shows that 50% of students are facing personal challenges. The distribution of subjects for the Assessment of the effectiveness of emergency remote learning activities based on the Physical challenge using proportion test statistic = 387.0025707 and p- p-value = 1.000. As $p > 0.05$, it shows that 50% of students are facing physical challenges. The distribution of subjects for assessment of the effectiveness of emergency remote learning activities based on the environmental challenge using proportion test statistic = 255.6981132 and p- p-value = 1.000. As $p > 0.05$, it shows that 50% of students are facing environmental challenges. Hence, the researchers reject the null hypothesis i.e., the proportion of students who are facing the challenges of emergency remote learning during covid-19 emergency first wave is equal to 0.5 (social, personal, physical, and environmental) at the 0.05 level of significance.

Table 3.1: Association between the challenges of emergency remote learning with ERL challenges during covid-19 emergency first wave using the Chi–Square test. N = 487

Sr. No	Assessment of Effectiveness of emergency remote learning activities	Demographic Variables association concerning assessment variable	Chi-Square test statistic value	P Value
1	**Technology**	Monthly Family Income	22.516[a]	.032*
		Using smartphone	50.616[a]	.000**
		Using Internet facility	22.650[a]	.031*
		Good Internet connection and speed	103.197[a]	.000**
2	**Psychology**	Educational Year	22.921[a]	.028*
		Good Internet connection and speed	61.225[a]	.000**
3	**Social**	Age (in Years)	14.987[a]	.020*
		Area of Residency	7.374[a]	.025*
		Nursing Program	25.656[a]	.000**
		Educational Year	16.554[a]	.011*
		Monthly Family	15.784[a]	.015*
		Good Internet connection and speed	19.327[a]	.004*
		Adequate teacher-student ratio	10.554[a]	.032*
4	**Personal**	Educational Year	15.651[a]	.016*
		Monthly Family	13.377[a]	.037*
		Device used for emergency remote learning	19.130[a]	.004*
		Good Internet connection and speed	15.710[a]	.015*
		Adequate teacher-student ratio	9.996[a]	.041*
5	**Environmental**	Using a smartphone for emergency remote learning	14.061[a]	.029*
		Internet Facility for emergency remote learning	25.557[a]	.002*
6	**Content**	Educational year	31.587[a]	.002*
		Using smartphone	17.814[a]	.023*
		Good Internet connection and speed	53.923[a]	.000**
7	**Learning Management System (LMS)**	Area of Residency	10.780[a]	.029*
		Good Internet connection and speed	42.215[a]	.000**
		Adequate teacher-student ratio	16.153[a]	.040*
8	**Teachers' component**	Educational Year	29.356[a]	.003*
		Using smartphone	22.171[a]	.005*
		Good Internet connection and speed	44.217[a]	.000**
		Adequate teacher-student ratio	22.797[a]	.004*

N = total number of subjects in the study, p = at 0.05 level of significance, *= significant, ** = highly significant, a = Cells having expected frequency less than 5 for calculating Chi-square test statistics

Association between the challenges of emergency remote learning with Technology - during the Covid-19 emergency first wave using the Chi-Square test.

The distribution of subjects according to their selected demographic variables i.e. monthly family income, using smartphone, internet facility, and internet connection speed for emergency remote learning with Chi-square test value (χ^2) = 22.516[a] and p = .032, (χ^2) = 50.616[a] and p = .000, (χ^2) = 22.650[a] and p = .031and (χ^2) = 103.197[a] and p = .000 respectively as p < 0.05, show that there is a **statistically significant association** among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning with an assessment of the effectiveness of emergency remote learning activities **– Technology** during covid-19 emergency first wave.

Association between the challenges of emergency remote learning with Psychology during covid-19 emergency first wave using the Chi–Square test.

The distribution of subjects according to their selected demographic variables i.e. educational year, and internet connection speed for emergency remote learning with Chi-square test values (χ^2) = 22.921[a] and p = .028, and (χ^2) = 61.225[a] and p = .000 respectively as p < 0.05, show that there is a **statistically significant association** among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning with an assessment of the effectiveness of emergency remote learning activities **– Psychology** during covid-19 emergency first wave.

Association between the challenges of emergency remote learning with Social during covid-19 emergency first wave using the Chi–Square test.

The distribution of subjects according to their selected demographic variables i.e. age, area of residency, nursing program, educational year, monthly family income, internet connection speed, and teacher students number for emergency remote learning with Chi-square test value (χ^2) = 14.987[a] and *p*=.020, (χ^2) = 7.374[a] and p = .025, (χ^2) = 25.656[a] and p = .000**, (χ^2) = 16.554[a] and p = .011*, (χ^2) = 15.784[a] and p = .015*, (χ^2) = 19.327[a] and p = .004, and (χ^2) = 10.554[a] and p = .032 respectively as p < 0.05, show that there is a **statistically significant association** among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning with an assessment of effectiveness of emergency remote learning activities **– Social** during Covid-19 emergency first wave.

Association between the challenges of emergency remote learning with Personnel during covid-19 emergency first wave using the Chi–Square test.

The distribution of subjects according to their selected demographic variables i.e. educational year, monthly family income, Device used, internet connection speed, and teacher students number for emergency remote learning with Chi-square test value (χ^2) = 15.651[a] and p = .016, (χ^2) = 13.377[a] and p = .037*, (χ^2) = 19.130[a] and p = .004*, (χ^2) = 15.710[a] and p = .015*, and (χ^2) = 9.996[a] and p = .041 respectively as p < 0.05, show that there is a

statistically significant association among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning with an assessment of the effectiveness of emergency remote learning activities **– Personal** during covid-19 emergency first wave.

Association between the challenges of emergency remote learning with the environment during covid-19 emergency first wave using the Chi-Square test.

The distribution of subjects according to their Using smartphone and Internet Facility for emergency remote learning with Chi-Square test value (χ^2) = 14.061[a] and p = .029, (χ^2) = 25.557[a] and p = .002 respectively as p < 0.05, show that there are **statistically significant associations** among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning with assessment of effectiveness of emergency remote learning activities **– Environmental** during covid-19 emergency first wave.

Association between the challenges of emergency remote learning with Content during covid-19 emergency first wave using the Chi-Square test.

The distribution of subjects according to their selected demographic variables i.e. **Educational Year, Using smartphone**, and **Internet connection speed** for emergency remote learning with Chi-Square test value (χ^2) = 31.587[a] and p = .002, (χ^2) = 17.814[a] and p = .023, and (χ^2) = 53.923[a] and p =.000 respectively as p < 0.05, show that there is a **statistically significant association** among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning with an assessment of the effectiveness of emergency remote learning activities **– content** during Covid-19 emergency first wave.

Association between the challenges of emergency remote learning with Learning Management System (LMS) during the Covid-19 emergency first wave using the Chi-Square test.

The distribution of subjects according to their selected demographic variables i.e. **age, area of residency, internet connection speed, and teacher students number** for emergency remote learning with Chi-Square test value (χ^2) = 20.969[a] and *p* = .05, (χ^2) = 10.780[a] and p = .029, (χ^2) = 42.215[a] and p =.000, and (χ^2) = 16.153[a] and p = .040 respectively as p < 0.05, show that there is a **statistically significant association** among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning with an assessment of the effectiveness of emergency remote learning activities **– Learning Management System (LMS)** during covid-19 emergency first wave.

Association between the challenges of emergency remote learning with Teachers component during covid-19 emergency first wave using the Chi-Square test.

The distribution of subjects according to their selected demographic variables i.e. **educational year, using a smartphone, internet connection speed, and teacher students number** for emergency remote learning with Chi-Square test value (χ^2) = 29.356[a] and p = .003*, (χ^2) = 22.171[a] and p = .005, (χ^2) = 44.217[a] and p =.000 and (χ^2) = 22.797[a] and p = .004 respectively as p < 0.05, show that there is a **statistically significant association** among these selected demographic variables for emergency remote learning and the challenges of emergency remote learning

with an assessment of effectiveness of emergency remote learning activities – **Teachers component** during covid-19 emergency first wave.

Discussion:

This study result shows that the student did not face challenges related to technology, psychology, content, learning management system (LMS), and teachers' component of emergency remote learning. However, they faced challenges related to the social, physical, personal, and environmental aspects of emergency remote learning. A study done by Erlam GD, Garrett N, Gasteiger N, Lau K, Hoare K, Agarwal S, and Haxell A in 2021, aimed to understand how the pandemic affected academics at a New Zealand university, regarding their transition to emergency remote teaching. Specifically, it explored the challenges as well as benefits academics experienced during this transition. The findings showed that the challenges faced were miscommunication from the university, concerns of students regarding access to technology, finding a quiet space to work, lack of digital competence skills, too much screen time, managing work hours, and work/ life balance. Our study respondents faced similar challenges related to the environment that as finding a quiet place to attend their lectures, having back problems related to long hours of sitting and eye strain due to focusing on the mobile phone, and issues with work-life balance. The benefits of Erlam's study included enhanced flexibility, enhanced teacher creativity, increased autonomy of learners, and reduced commute time. Our study findings show similar factors that students did not have difficulty with technology, had more autonomy and enjoyed the content and LMS used. They had no issues with the teachers' method of delivery of lectures. A study was done by Lepp, Marina, and Piret Luik. 2021, on Challenges and Positives Caused by Changing Roles during Emergency Remote Education in Estonia. This study too found challenges such as teachers' unreadiness and problems related to technology. A study was done by Hatice Gökçe Bilgiç to examine the level of student satisfaction and opinions about the emergency remote teaching process during the Covid-19 pandemic at the Ondokuz Mayis University in Turkey. The results indicated that 72.5% of participants (n = 2567) graded their distance learning experiences during the pandemic as moderately satisfactory or higher during the pandemic at the university. The highest satisfaction score is for the system including LMS and videoconferencing tools, and the lowest satisfaction score is for assessment and measurement methods. Fernando Ferri, Patrizia Grifoni, and Tiziana Guzzo conducted a qualitative study to analyze the opportunities and challenges of emergency remote teaching based on experiences of the Covid-19 emergency. The results revealed technological, pedagogical, and social challenges. The technological challenges were mainly related to poor Internet connections and students' lack of necessary electronic devices. The learning challenges were principally associated with teachers' and learners' lack of digital skills, the lack of structured content and confusion with the abundance of online resources, students' lack of interactivity and motivation, and teachers' lack of social and physical presence. The social challenges were mainly related to the lack of human interaction between teachers and students, the lack of physical spaces at home to receive lessons, and the lack of support from parents who were working remotely in the same spaces.

Conclusion:

It was concluded that students were facing environmental, social, personal, and physical challenges of emergency remote learning during covid-19 emergency first wave. Students were not facing the Technology, psychology, content, Learning Management System (LMS), and teacher component challenges of emergency remote learning during covid-19 emergency first wave. There was a significant association between monthly family income, internet facility, and a highly significant association between using smartphones and internet connection speed and **Technology** as challenges of emergency remote learning during covid-19 emergency first wave. There was a significant association between educational year and internet connection speed and **Psychology** as challenges of emergency remote learning during covid-19 emergency first wave. There was a significant association between educational year, monthly family income, device used for ERL, Internet connection speed for emergency remote learning Teacher students' number for ERL, and **Personal** challenges of emergency remote learning during covid-19 emergency first wave. There was a significant association between using a smartphone and internet connection speed and **Environmental** challenges of emergency remote learning during covid-19 emergency first wave. There was a significant association between educational year and using smartphones and a highly significant association between Internet connection speed and **Content** as challenges of emergency remote learning during the Covid-19 emergency first wave. There was a significant association between the area of residency and teacher students' number for emergency remote learning and a highly significant association between Internet connection speed and **Learning Management System (LMS)** as challenges of emergency remote learning during covid-19 emergency first wave. There was a significant association between educational year, using smartphones for ERL and teacher students' number for emergency remote learning and a highly significant association between Internet connection speed for emergency remote learning and **teachers component** as challenges of emergency remote learning during covid-19 emergency first wave.

Summary:

This study showed that students had faced environmental, social, personal, and physical challenges of emergency remote learning during covid-19 emergency first wave. These challenges were associated with their age, course, program, monthly family income, area of residence, internet facility, and highly significant association between using smartphones and internet connection speed. Though we have successfully overcome Covid - 19, we need to keep the infrastructure, faculty training, and facilities ready at hand for future emergencies.

References:

1. Hodges, c.; Moore, S.; Lockee, B.; Trust, T.; Bond, A.; The difference between emergency remote teaching and online learning. Educ-Rev, 2020. Available online. http://er.educause.edu/articles/2020/3/the-differnce-between-emergency-remote-teaching-and-online-learning (accessed on 10 September 2020).

2. United Nations, Policy Brief: Education during COVID-19 and Beyond 2020. Available online; http://www.un.org/development/desa/dspd/up-content/uoploads/sites/22/2020/0/59-policy-brief-COVID19-and-education-august-2020.pdf (accessed on 4 October 2020).
3. Fernando Ferri, Patrizia Griforie and Tiziana Guzzo. Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergencies. Available online http://www.mdpi.com/Journal/societies2020,10,86;doi10.3390/soc10040086
4. Clark, R.C.; Mayer, R.E., E-learning and the science of Instruction, 4th ed; Wiley: Hobolen, NJ, USA, 2016.
5. Mukhtar, K.; Javed, K.; Arooj, M.; Sethi, A. Advantages, limitations and recommendations for online learning during COVID-19 Pandemic era. Pak J Med. Sci. 2020, 36
6. Erlam GD, Garrett N, Gasteiger N, Lau K, Hoare K, Agarwal S and Haxell A (2021) What Really Matters: Experiences of Emergency Remote Teaching in University Teaching and Learning During the COVID-19 Pandemic. Front. Educ. 6:639842. doi 10.3389/feduc.2021.639842
7. Lepp, Marina, and Piret Luik. 2021. Challenges and Positives Caused by Changing Roles during Emergency Remote Education in Estonia as Revealed by Facebook Messages. Social Sciences 10: 364. https://doi.org/10.3390/socsci10100364
8. Gope, P. C., Gope, D., & Gope, A. (2021). Higher Education in India: Challenges and Opportunities of the COVID-19 Pandemic. *Asian Journal of Distance Education*, *16*(1), 54-73. Retrieved from http://www.asianjde.com/ojs/index.php/AsianJDE/article/view/527
9. Hatice Gökçe Bilgiç. Evaluation of the Emergency Remote Teaching Process during the COVID-19 Pandemic: Implications Based on Students' Views. Asian Society for Open and Distance Education (ASODE), Japan, ISSN 1347-9008 http://www.asianjde.com/
10. Yusuf, B.N. Are we prepared enough? A case study of challenges in online learning in a private higher learning institution during the Covid-19 outbreaks. Adv. Soc. Sci. Res. J. 2020, 7, 205–212. [CrossRef]
11. Fernando Ferri, Patrizia Grifoni and Tiziana Guzzo Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergency Situations, Societies 2020, 10, 86; doi: 10.3390/soc10040086.