European Journal of Molecular & Clinical Medicine
ISSN 2515-8260 Volume 07, Issue 01, 2020

PERCEPTION OF DENTAL STUDENTS TOWARDS ONLINE CLASSES

Aditi Chopra[1], Jayalakshmi Somasundaram[2]

[1]Saveetha Dental College and HospitalsSaveetha Institute of Medical and Technical Sciences,Saveetha University, Chennai - 600077.India.
[2]Chief ScientistWhite lab - Material Research CentreSaveetha Dental College and HospitalsSaveetha Institute of Medical and Technical Sciences,Saveetha University, Chennai - 600077.India.
[1]151801018.sdc@saveetha.com
[2]jayalakshmisomasundaram@saveetha.com

ABSTRACT
The pandemic of coronavirus has quickly impacted the entire world, and the government has responded with a lock down. The lock down involves shutting of schools and colleges and a shift from traditional classrooms to online classes and e-learning. This has a lot of benefits such as flexible timings, convenience, no commute et cetera. However, these are contradicted by no practical classes, no personal attention from staff and a strayed student teacher relationship. A questionnaire survey consisting of 12 questions was prepared and circulated through an online survey portal among 100 dental students in India. The questions were prepared to analyse the perception of dental students towards online classes. Online classes have changed the education system for the time being. Students are involved in e-learning through online education portals and online platforms, which helps them to efficiently utilise their time. Despite the advantages that online classrooms have, results show that dental students prefer traditional classrooms over them.

Keywords: Education, E- learning, lockdown, online classes, pandemic

INTRODUCTION

The pandemic of coronavirus is one that has become the talk of the world nowadays. It's rapid and fast spread has shocked everyone. The novel coronavirus disease that emerged at the end of 2019 began threatening the health and lives of millions of people after a few weeks(Chan *et al.*, 2020). Highly contagious with the possibility of causing severe respiratory infections, it has quickly impacted public health systems and governments, which have responded by declaring it as a public health emergency of national concern and by adopting measures such as a nationwide lockdown to limit the outbreak (Allsopp*et al.*, 2019)(Ashwin and Muralidharan, 2015). Millions of lives have been altered, and methods to deal with the stress are required. The outbreak has undoubtedly largely affected the mental, social, financial and physical health of people(Aarons *et al.*, 2012).

Coronavirus is a group of viruses that causes diseases in mammals and birds. In humans, these viruses cause respiratory tract infection that can range from mild to severe(Velavan and Meyer, 2020). Mild illnesses can include some cases of common cold while lethal cases include SARS & COVID-19(Feng*et al.*, 2020). COVID-19 is an infectious disease caused by severe acute respiratory syndrome coronavirus- 2 (SARS-COV2)(Cascella*et al.*, 2020). It was first identified in Wuhan, China and has since spread globally, resulting in a pandemic(Murthy, Gomersall and Fowler, 2020)(Girija*et al.*, 2019). Common symptoms include fever, cough, fatigue, shortness of breath and loss of smell and taste(Mackenzie and Poore, 2020). It can also lead to multiple organ failures, septic shocks, and blood clots(Hui*et al.*, 2020) . The virus primarily spread between people during close contact via small droplets produced by coughing, sneezing, and talking(Hopkins *et al.*, 2020). Recommended measures to prevent infection include frequent hand

washing, maintaining physical distance from others, self quarantine, face covering and sanitisingregularly(Balasubramanian, 2020)(Crotti and Arbelo, 2020). These preventive measures should be taken seriously as there are no vaccines nor specific treatments for infection(Chowell*et al.*, 2015)(Sivakumar, SmilineGirija and VijayashreePriyadharsini, 2020) .
COVID-19 has resulted in a nationwide lockdown, which means all institutions, whether educational, or otherwise have to be closed till the situation is under control. This has resulted in schools and colleges shut around the world(Mondol and Mohiuddin, 2020). Globally, over 1.2 billion children are out of a classroom. As a result, education has changed drastically with the distinctive rise of e-learning that is online classes, where teaching is undertaken remotely and on digital platforms(Girija*et al.*, 2019). Research suggests that online classes have been shown to increase retention of information, take less time, meaning the changes coronavirus have caused, might be here to stay. While some believe that the unplanned and rapid move to online learning with no training, insufficient bandwidth and little preparation will result in a poor user experience, others believe that a new hybrid model of education will emerge with significant benefits. There are, however, challenges to overcome(Atmojo and Nugroho, 2020). Some students without reliable internet access and technology struggled to participate in digital learning(Selvakumar and Np, 2017). This gap is seen across countries and all around the world, specially India. Another prominent challenge is the practical aspect of learning for courses of medicine and dentistry(Mullen and Logan, 2020). Since the students are at home, there is no learning aspect of clinical practice present, which is the main part of their profession. Students are also claiming that online classes are not able to provide the personal and individual attention from a teacher which is there in traditional or personal classes.

For those who do have access to the right technology, and good internet connection, there is evidence that learning online can be more effective in a number of ways(Shahana and Muralidharan, 2016). Research shows that on an average students retain 25% to 40% more materials and learning online compared to only 8 to 10% in a classroom(Alrefaie, Hassanien and Al-Hayani, 2020). This is mostly due to students being able to learn faster online, e-learning requires 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(Alrefaie, Hassanien and Al-Hayani, 2020; Spencer, 2020). However, the effectiveness of online classes varies amongst age groups(Marickar, Geetha and Neelakantan, 2014).

The general consensus on children, especially younger ones, is that a structured environment is required, because they get more easily distracted(Pratha, AshwathaPratha and Geetha, 2017). The solution to that, is making learning fun and effective through the use of integration of games which has shown a higher engagement and increased motivation towards learning(Mishra *et al.*, 2020). The emotions and perceptions of faculty and students towards the usage of technology and experience are different for different users(Vaishali and Geetha, 2018). However, the beginning and initiation of online classes has created a revolution in Indian higher education, as there was lots of resistance in teaching fraternity to words adapting to technology and virtual engagement of students(Ferrel and Ryan, 2020). The tools used by faculty during lock down for teaching and learning through online mode or zoom, Google Hangouts, Skype, Google classroom, LMS, ICT, YouTube etc. Faculty are also engaging in sharing presentations, guest sessions by experts and using videos to teach(M, Geetha and Thangavelu, 2019). This has created a revolution in the institutions and proved the hybrid system of teaching through off-line and online mode(‘CORD-19 offers online collection of thousands of coronavirus research papers’, 2020).

MATERIALS AND METHODS

A cross sectional survey was conducted to analyse and evaluate the perception of dental students towards the online classes taking place during lock down. Self structured 15 questions were framed and the survey was made using an online survey portal and it was circulated among 100 dental students chosen at random,

with the help of social media applications. The people were chosen from a university. Using the survey portal, the results were obtained and graphs were plotted to compare the results. Statistical analysis was done using the SPSS software version 20.0. Descriptive statistics were expressed by means of frequency and percentage. Chi-square test was used to find the association between the variables. The survey was prepared in such a way, to analyse the advantages and disadvantages of online classes. They consisted of questions about coping with the difficulties of online classes, its usefulness and which of the two , the students prefer - personal traditional classes or e-learning.

RESULTS AND DISCUSSION

Closing of schools and colleges has had a major effect on the education of students(Girija*et al.*, 2019). Dental colleges are using many platforms to cover up the syllabus however, failing to provide practical clinical learning(Gadbury-Amyot and Brockman, 2011). Figure 1 shows that 98% of the students are having online classes during the lockdown period. The rest 2% are not having any.Figure 2 shows that 51% of them find these classes to be useful whereas 25% don't find them. The remaining people have conflicted opinions. Studies also show that online classes have a lower level of understanding due to no personal interaction between the class(Dutton and Ryznar, no date). In conflict, another study shows online classes provide sufficient time to sell study, that's inflicting confidence in students(Rubin, 2013).

Figure 3 shows the percentage of students who think online classes should be a part of the curriculum. 40% are in agreement, whereas 35% disagree. Research shows that online classes with activities and games increase interest in the subject(Wang and Liu, 2019). A separate study shows that learning online, despite its benefits, has several distractions(Inquimbert*et al.*, 2019).
Figure 4 shows that 87% of the students have been given tests and assignments, whereas the rest 13% have not.Figure 5 shows the amount of people who think the syllabus will be completed by online classes that is 67% of them. Research shows that since there is less understanding in online classes, it is difficult to cope with them(Roberts *et al.*, 2019)(Girija, Jayaseelan and Arumugam, 2018). Whereas, in comparison, another study shows that online learning means faster learning, in turn faster completion of syllabus(Zheng*et al.*, 2017).

Drawbacks of online classes were also asked to the dental students. They reported with several answers which include bad internet connection, no personal attention, no practical classes, low quality, and eyestrain etc(Ariana*et al.*, 2016).Figure 6 shows the percentage of people who think that classes are helping with the utilisation of time during the lockdown. Research shows that classes have flexible timings, hence are convenient(Darby and Lang, 2019).Figure 7 shows that 52% of students find a major difference in the quality of education between online classes in personal traditional classes, whereas 48% do not. This can be because unlike traditional classrooms, there is no one-on-one interaction, no personal attention and a strayed teacher student relationship in online classes(Smiline, Vijayashree and Paramasivam, 2018)(Taylor, 2014).

Figure 8 shows that only 46% of the students are able to cope with the pressures of online classes; the remaining 33% aren't able to understand much. This is because e-learning involves fast learning and it is difficult to follow new subjects taught by the teachers(Paramasivam, Priyadharsini and Raghunandhakumar, 2020). Since the teachers are also new to most concepts of e-learning and eating they are not able to explain as well as they do in traditional classes(Poland, no date).Figure 9 shows the tools used for e-learning by dental students. They are WhatsApp that is 54%, Google classroom that is 22% and zoom call that is 54%. Other applications such as Wiz IQ, teachable, and ruzuku are also available(Pethuraja, 2015).

Figure 10 shows that 43% of the dental students think that online classes can become a future trend whereas 23% have conflicting opinions and the rest are not aware. Research says that online classes

involve an environment of game learning, micro learning and video content by certifying organisations which add up to social mentoring, which makes it likely to become very popular in the future(Thornburg, Abernathy and Ceglie, 2020)(Priyadharsini*et al.*, 2018a). Figure 11 shows that 77% of the students prefer personal classes over online classes and 33% prefer the opposite. Studies show that online classes offer an advantage of a flexible schedule, which is very convenient, starting at one's own pace, low-cost and no commute(Priyadharsini*et al.*, 2018b). However, networking is a problem unless personal attention weighs the benefits down(Jackson and Weaver, 2018).

Limitations

The limitations of the study are that the data presented in the study are partly dependent on the participants honesty. The sample size is only hundred and studies with larger sample size will provide more conclusive data. The goal is to take suggestions from students and incorporate and implement them in future classes to improve the classes and attain a better result and higher interest level(Shahzan*et al.*, 2019).

CONCLUSION

Despite the advantages of online classes, such as convenience, low cost, better understanding with graphics and faster learning ability, our results show that dental students prefer traditional classrooms over e-learning. This is because the disadvantages outweigh the benefits, for example, no practical classes, no clinical exposure, technical difficulties, bad network connection and a strayed teacher student relationship.

AUTHOR CONTRIBUTION

Aditi Chopra contributed in execution of work, data collection and drafting of manuscript. Dr. JayalakshmiSomasundaram contributed in concept and design of the study, revision, proofreading of the manuscript and validation of the data collection.

CONFLICT OF INTEREST

This survey paper is self funded and is not sponsored or aided by any third party. The authors declare no potential conflict of interest

REFERENCES

[1] Aarons, G. A. et al. (2012) 'The organizational social context of mental health services and clinician attitudes toward evidence-based practice: a United States national study', Implementation Science. doi: 10.1186/1748-5908-7-56.
[2] Allsopp, K. et al. (2019) 'Responding to mental health needs after terror attacks', BMJ , 366, p. l4828.
[3] Alrefaie, Z., Hassanien, M. and Al-Hayani, A. (2020) 'Monitoring Online Learning During COVID-19 Pandemic; Suggested Online Learning Portfolio (COVID-19 OLP)', MedEdPublish. doi: 10.15694/mep.2020.000110.1.
[4] Ariana, A. et al. (2016) 'Integration of Traditional and E-Learning Methods to Improve Learning Outcomes for Dental Students in Histopathology', Journal of dental education, 80(9), pp. 1140–1148.
[5] Ashwin, K. S. and Muralidharan, N. P. (2015) 'Vancomycin-resistant enterococcus (VRE) vs Methicillin-resistant Staphylococcus Aureus (MRSA)', Indian Journal of Medical Microbiology, p. 166. doi: 10.4103/0255-0857.150976.
[6] Atmojo, A. E. P. and Nugroho, A. (2020) 'EFL Classes Must Go Online! Teaching Activities and Challenges during COVID-19 Pandemic in Indonesia', Register Journal, pp. 49–76. doi: 10.18326/rgt.v13i1.49-76.
[7] Balasubramanian, D. M. (2020) Covid 19 - The New Age Pandemic. Notion Press.

[8] Cascella, M. et al. (2020) 'Features, Evaluation and Treatment Coronavirus (COVID-19)', in StatPearls. Treasure Island (FL): StatPearls Publishing.
[9] Chan, J. F.-W. et al. (2020) 'A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster', The Lancet, pp. 514–523. doi: 10.1016/s0140-6736(20)30154-9.
[10] Chowell, G. et al. (2015) 'Transmission characteristics of MERS and SARS in the healthcare setting: a comparative study', BMC medicine, 13, p. 210.
[11] 'CORD-19 offers online collection of thousands of coronavirus research papers' (2020) News Group. doi: 10.1287/lytx.2020.02.16n.
[12] Crotti, L. and Arbelo, E. (2020) 'COVID-19 treatments, QT interval and arrhythmic risk: the need for an international Registry on Arrhythmias', Heart rhythm: the official journal of the Heart Rhythm Society. doi: 10.1016/j.hrthm.2020.05.024.
[13] Darby, F. and Lang, J. M. (2019) Small Teaching Online: Applying Learning Science in Online Classes. John Wiley & Sons.
[14] Dutton, Y. and Ryznar, M. (no date) 'Assessing Online Learning in Law Schools: Students Say Online Classes Deliver'. doi: 10.31228/osf.io/bm8s5.
[15] Feng, S. et al. (2020) 'Rational use of face masks in the COVID-19 pandemic', The Lancet. Respiratory medicine, 8(5), pp. 434–436.
[16] Ferrel, M. N. and Ryan, J. J. (2020) 'The Impact of COVID-19 on Medical Education', Cureus, 12(3), p. e7492.
[17] Gadbury-Amyot, C. C. and Brockman, W. G. (2011) 'Transition of a traditional pharmacology course for dental students to an online delivery format: a pilot project', Journal of dental education, 75(5), pp. 633–645.
[18] Girija, A. S. S. et al. (2019) 'Plasmid-encoded resistance to trimethoprim/sulfamethoxazole mediated by dfrA1, dfrA5, sul1 and sul2 among Acinetobacterbaumannii isolated from urine samples of patients with severe urinary tract infection', Journal of Global Antimicrobial Resistance, pp. 145–146. doi: 10.1016/j.jgar.2019.04.001.
[19] Girija, S. A. S., Jayaseelan, V. P. and Arumugam, P. (2018) 'Prevalence of VIM- and GIM-producing Acinetobacterbaumannii from patients with severe urinary tract infection', ActaMicrobiologica et ImmunologicaHungarica, pp. 539–550. doi: 10.1556/030.65.2018.038.
[20] Hopkins, C. et al. (2020) 'Early recovery following new onset anosmia during the COVID-19 pandemic - an observational cohort study', Journal of otolaryngology - head & neck surgery = Le Journal d'oto-rhino-laryngologieet de chirurgiecervico-faciale, 49(1), p. 26.
[21] Hui, D. S. et al. (2020) 'The continuing 2019-nCoV epidemic threat of novel coronaviruses to global health - The latest 2019 novel coronavirus outbreak in Wuhan, China', International journal of infectious diseases: IJID: official publication of the International Society for Infectious Diseases, 91, pp. 264–266.
[22] Inquimbert, C. et al. (2019) 'Pedagogical Evaluation of Digital Technology to Enhance Dental Student Learning', European journal of dentistry, 13(1), pp. 53–57.
[23] Jackson, P. and Weaver, C. (2018) Writing in Online Courses: How the Online Environment Shapes Writing Practices. Stylus Publishing, LLC.
[24] Mackenzie, E. L. and Poore, S. O. (2020) '"Slowing the Spread and Minimizing the Impact of COVID-19: Lessons from the Past and Recommendations for the Plastic Surgeon"', Plastic and reconstructive surgery. doi: 10.1097/PRS.0000000000007221.
[25] Marickar, R. F., Geetha, R. V. and Neelakantan, P. (2014) 'Efficacy of Contemporary and Novel Intracanal Medicaments againstEnterococcusFaecalis', Journal of Clinical Pediatric Dentistry, pp. 47–50. doi: 10.17796/jcpd.39.1.wmw9768314h56666.
[26] Miklósi, M. (no date) 'Online parent training for reducing parenting stress during the coronavirus pandemic', http://isrctn.com/. doi: 10.1186/isrctn15254871.
[27] Mishra, D. et al. (2020) 'The impact of COVID-19 related lockdown on ophthalmology training programs in India - Outcomes of a survey', Indian journal of ophthalmology, 68(6), pp. 999–1004.

[28] M, M. A., Geetha, R. V. and Thangavelu, L. (2019) 'Evaluation oEvaluation of anti-inflammatory action of Laurusnobilis-an in vitro studyf anti-inflammatory action of Laurusnobilis-an in vitro study', International Journal of Research in Pharmaceutical Sciences, pp. 1209–1213. doi: 10.26452/ijrps.v10i2.408.
[29] Mondol, M. S. and Mohiuddin, M. G. (2020) 'Confronting Covid-19 with a Paradigm Shift in Teaching and Learning: A Study on Online Classes', International Journal of Social, Political and Economic Research, pp. 231–247. doi: 10.46291/ijospervol7iss2pp231-247.
[30] Mullen, M. and Logan, D. (2020) 'Finishing College Classes During COVID-19', Psychiatry Information in Brief. doi: 10.7191/pib.1147.
[31] Murthy, S., Gomersall, C. D. and Fowler, R. A. (2020) 'Care for Critically Ill Patients With COVID-19', JAMA: the journal of the American Medical Association. doi: 10.1001/jama.2020.3633.
[32] Paramasivam, A., Priyadharsini, J. V. and Raghunandhakumar, S. (2020) 'N6-adenosine methylation (m6A): a promising new molecular target in hypertension and cardiovascular diseases', Hypertension Research, pp. 153–154. doi: 10.1038/s41440-019-0338-z.
[33] Pethuraja, S. (2015) Massive Open Online Courses (MOOCs) For Everyone. Pethuraja.S.
[34] Poland, J. (no date) 'Online Learning with Universal Model and Predictor Classes', 2006 IEEE Information Theory Workshop. doi: 10.1109/itw.2006.1633819.
[35] Pratha, A. A., AshwathaPratha, A. and Geetha, R. V. (2017) 'Awareness on Hepatitis-B vaccination among dental students-A Questionnaire Survey', Research Journal of Pharmacy and Technology, p. 1360. doi: 10.5958/0974-360x.2017.00240.2.
[36] Priyadharsini, J. V. et al. (2018a) 'An insight into the emergence of Acinetobacterbaumannii as an oro-dental pathogen and its drug resistance gene profile – An in silico approach', Heliyon, p. e01051. doi: 10.1016/j.heliyon.2018.e01051.
[37] Priyadharsini, J. V. et al. (2018b) 'In silico analysis of virulence genes in an emerging dental pathogen A. baumannii and related species', Archives of Oral Biology, pp. 93–98. doi: 10.1016/j.archoralbio.2018.07.001.
[38] Raj, U. and Fatima, A. (no date) 'Stress in Students after Lockdown Due to COVID-19 Thereat and the Effects of Attending Online Classes', SSRN Electronic Journal. doi: 10.2139/ssrn.3584220.
[39] Roberts, B. S. et al. (2019) 'Dental Students' Use of Student-Managed Google Docs and Other Technologies in Collaborative Learning', Journal of dental education, 83(4), pp. 437–444.
[40] Rubin, B. (2013) 'MEASURING THE COMMUNITY IN ONLINE CLASSES', Online Learning. doi: 10.24059/olj.v17i3.344.
[41] Selvakumar, R. and Np, M. (2017) 'COMPARISON IN BENEFITS OF HERBAL MOUTHWASHES WITH CHLORHEXIDINE MOUTHWASH: A REVIEW', Asian Journal of Pharmaceutical and Clinical Research, p. 3. doi: 10.22159/ajpcr.2017.v10i2.13304.
[42] Shahana, R. Y. and Muralidharan, N. P. (2016) 'Efficacy of mouth rinse in maintaining oral health of patients attending orthodontic clinics', Research Journal of Pharmacy and Technology, p. 1991. doi: 10.5958/0974-360x.2016.00406.6.
[43] Shahzan, M. S. et al. (2019) 'A computational study targeting the mutated L321F of ERG11 gene in C. albicans, associated with fluconazole resistance with bioactive compounds from Acacia nilotica', Journal de MycologieMédicale, pp. 303–309. doi: 10.1016/j.mycmed.2019.100899.
[44] Sivakumar, S., SmilineGirija, A. S. and VijayashreePriyadharsini, J. (2020) 'Evaluation of the inhibitory effect of caffeic acid and gallic acid on tetR and tetM efflux pumps mediating tetracycline resistance in Streptococcus sp., using computational approach', Journal of King Saud University - Science, pp. 904–909. doi: 10.1016/j.jksus.2019.05.003.
[45] Smiline, A. S. G., Vijayashree, J. P. and Paramasivam, A. (2018) 'Molecular characterization of plasmid-encoded blaTEM, blaSHV and blaCTX-M among extended spectrum β-lactamases [ESBLs] producing Acinetobacterbaumannii', British Journal of Biomedical Science, pp. 200–202. doi: 10.1080/09674845.2018.1492207.

[46] Spencer, B. (2020) A Handbook for the Online Student: Learning in Difficult Times. Brighthorse Books.
[47] Taylor, H. (2014) 'Engaging psychology students in online classes', PsycEXTRA Dataset. doi: 10.1037/e577852014-003.
[48] Thornburg, A. W., Abernathy, D. F. and Ceglie, R. J. (2020) Handbook of Research on Developing Engaging Online Courses. IGI Global.
[49] Vaishali, M. and Geetha, R. V. (2018) 'Antibacterial activity of Orange peel oil on Streptococcus mutans and Enterococcus-An In-vitro study', Research Journal of Pharmacy and Technology, p. 513. doi: 10.5958/0974-360x.2018.00094.x.
[50] Velavan, T. P. and Meyer, C. G. (2020) 'The COVID-19 epidemic', Tropical medicine & international health: TM & IH, 25(3), pp. 278–280.
[51] Wang, R. and Liu, C. (2019) 'The relation of dental students' learning styles to their satisfaction with traditional and inverted classroom models', BMC medical education, 19(1), p. 315.
[52] Zheng, M. et al. (2017) 'An Interactive Online Approach to Teaching Evidence-Based Dentistry with Web 2.0 Technology', Journal of dental education, 81(8), pp. 995–1003.

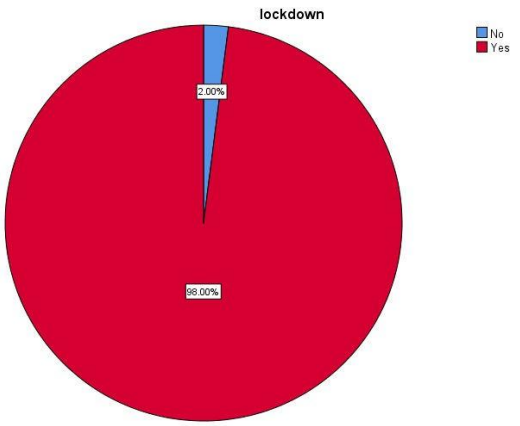

Figure 1. A Pie chart showing the responses to the question "Are you having online classes during the lockdown?". 98% of the respondents reported that they are having online classes (Red) , 2% reported the opposite (Blue).

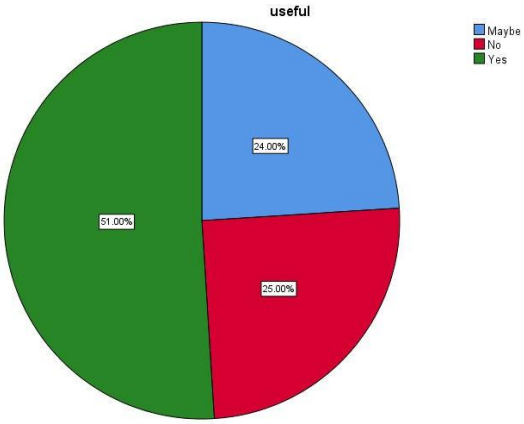

Figure 2. A Pie chart showing the responses to the question "Do you find online classes necessary or useful?". 51% of the respondents reported that they find online classes useful (Green), 25% reported the opposite (Red) and the remaining 24% are not sure (Blue).

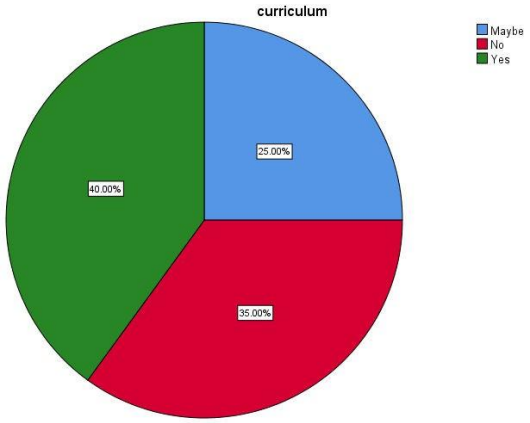

Figure 3. A Pie chart showing the responses to the question "Do you think they should be included as a part of your curriculum?". 40% of the respondents reported that they think online classes should be a part of the college curriculum (Green), 35% reported the opposite (Red) and the remaining 25% are not sure (Blue).

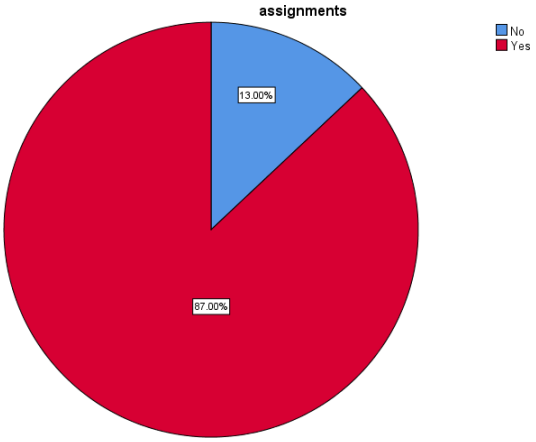

Figure 4. A Pie chart showing the responses to the question "Is your educational institution giving tests or assignments during this period?". 87% of the respondents reported that they are receiving tests and assignments regularly(Red), and 13% reported the opposite (Blue).

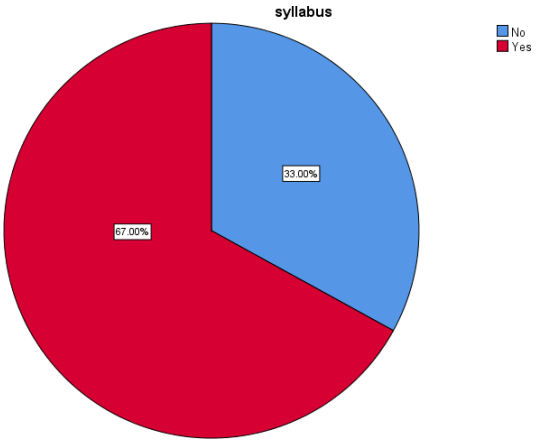

Figure 5. A Pie chart showing the responses to the question "Are they able to finish the syllabus through e-learning?". 67% of the respondents reported that their institute is able to complete the syllabus as per curriculum(Red), and 33% reported the opposite (Blue).

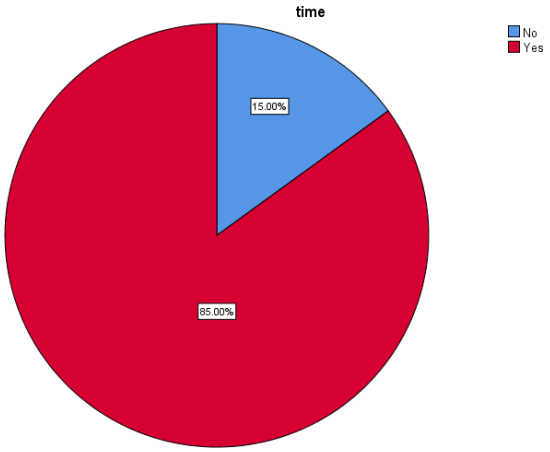

Figure 6. A Pie chart showing the responses to the question "Are these classes helping you to utilise your time efficiently during the lockdown?". 85% of the respondents reported that they are able to utilise their time due to online classes(Red), and 15% reported the opposite (Blue).

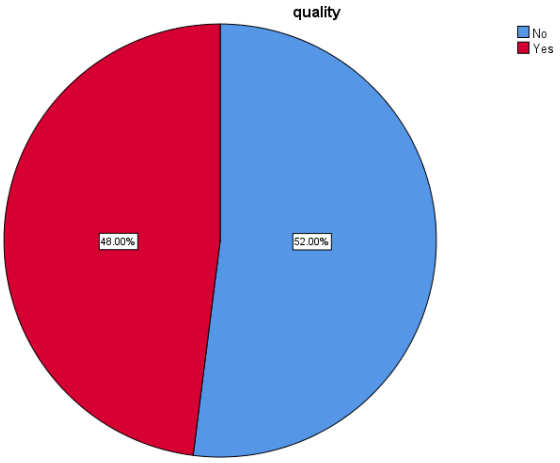

Figure 7. A Pie chart showing the responses to the question "Is the quality of education online similar/same to the education provided in person?". 48% of the respondents reported that they think the quality of education is similar(Red), whereas 52% reported the opposite (Blue).

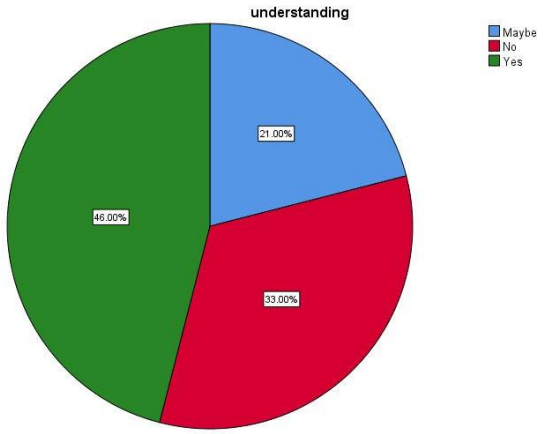

Figure 8. A Pie chart showing the responses to the question "Are you able to cope with the classes and understand what is being taught?". 46% of the respondents reported that they are able to cope with the classes (Green), whereas 33% reported the opposite(Red) and the remaining 21% are not sure (Blue).

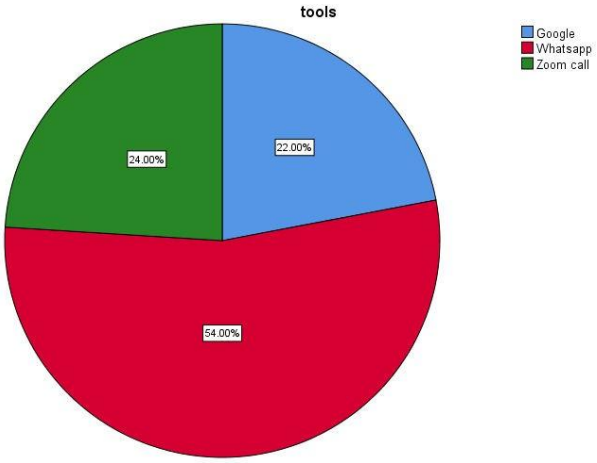

Figure 9. A Pie chart showing the responses to the question "What are the tools you are using for online classes?". 54% of the respondents reported that they are using Whatsapp for the classes (Red), whereas 24% reported the usage of Zoom Call (Green) and the remaining 22% are using Google classroom(Blue).

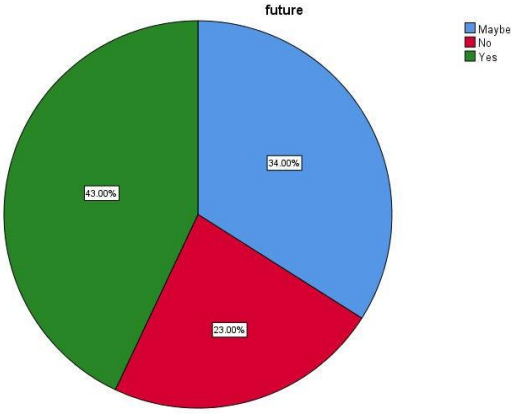

Figure 10. A Pie chart showing the responses to the question "Do you think online classes can become a future trend?". 43% of the respondents reported that they think that online classes can become a future trend (Green), whereas 23% reported the opposite(Red) and the remaining 34% are not sure (Blue).

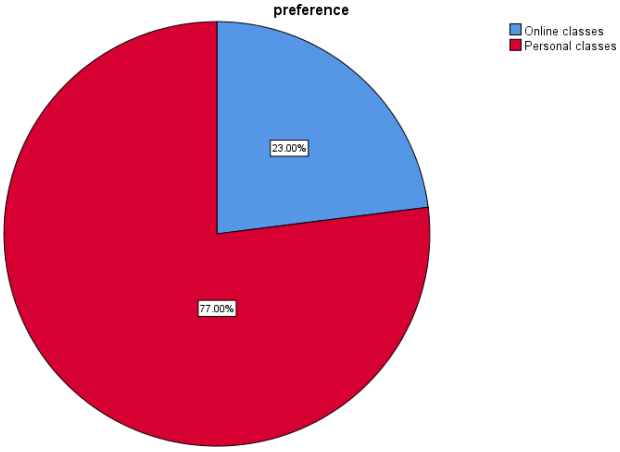

Figure 11. A Pie chart showing the responses to the question "Do you prefer online classes or traditional personal classes?". 77% of the respondents reported that they think that online classes are better (Red), whereas 23% reported the opposite(Blue).

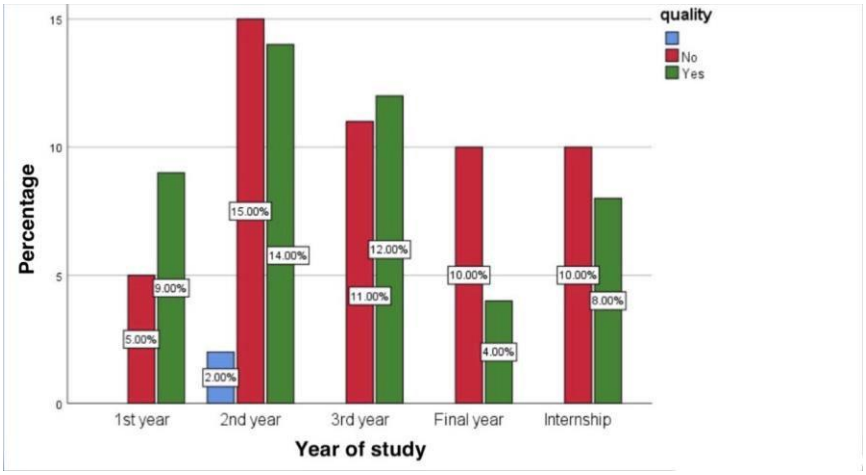

Figure 12.Bar graph representing association between year of study and rate of quality of online classes in comparison to traditional classes. X axis represents the year of study and Y axis represents the percentage of responses. Only first years and third years feel that the quality of education between the two is the same, and have answered yes. On the other hand, second years, final years and interns feel the opposite. Chi square analysis was done , Pearson Chi SquareValue= 8.479, the P value was 0.388 (p>0.05), which was not found to be statistically significant.

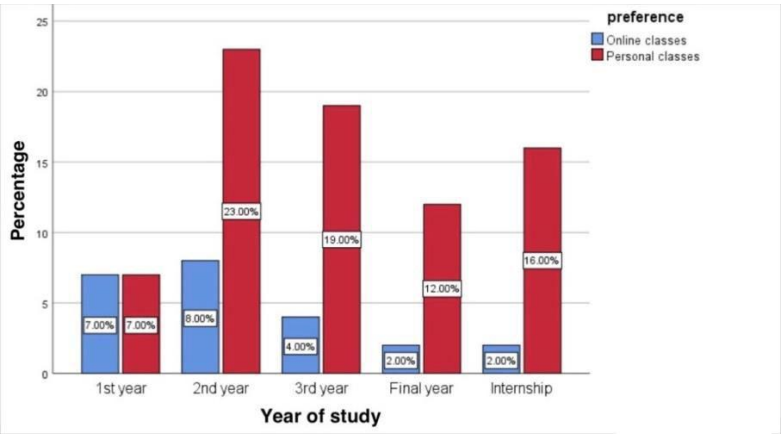

Figure 13.Bar graph representing association between year of study and students preference between online classes and traditional classes. X axis represents the year of study and Y axis represents the response of students stating their preference between online classes and traditional classes. Second years, third years, final years and interns prefer personal classes. Among them, second years were the most keen on having personal classes over online classes. Chi square analysis was done , Pearson Chi SquareValue= 8.346, the P value was 0.080 (p>0.05), which was not found to be statistically significant.

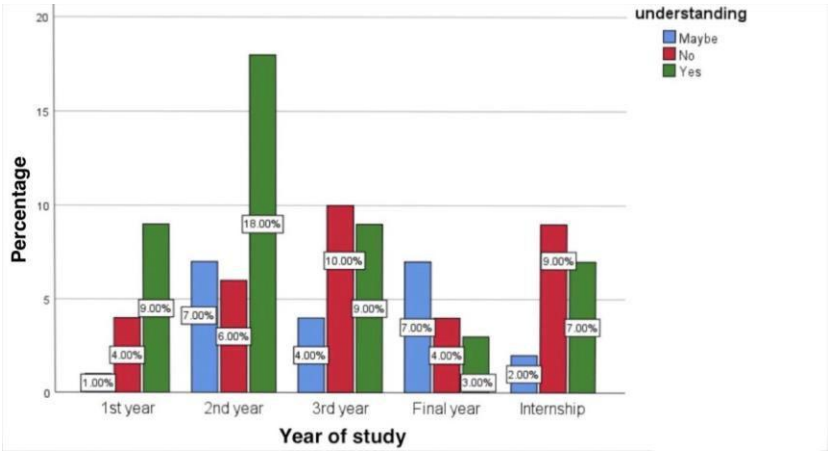

Figure 14.Bar graph representing association between year of study and response of students regarding the understanding level in online classes. X axis represents the year of study and Y axis represents the percentage of responses regarding the understanding level in online classes. Second years have the maximum understanding level as compared to the other years, and this is considered as a significant increase. Chi square analysis was done , Pearson Chi SquareValue= 16.431, the P value was 0.037($p<0.05$), which was found to be statistically significant. Significant increase in rate of understanding among the 2nd years when compared to the other years of study.

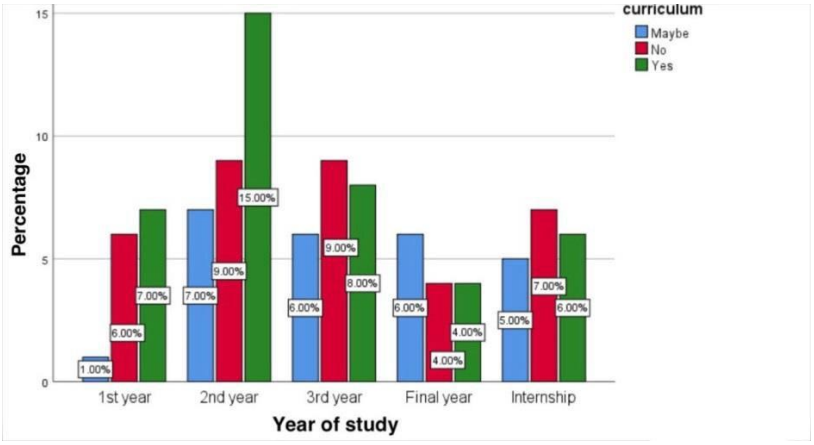

Figure 15.Bar graph representing association between year of study and response of students regarding addition of online classes in the curriculum. X axis represents the year of study and Y axis represents the response of students towards addition of online classes in the curriculum. There is an increase seen in second years who reported that they want online classes to be involved as a part of the college curriculum. Chi square analysis was done , Pearson Chi SquareValue= 6.337, the P value was 0.610($p>0.05$), which was not found to be statistically significant.

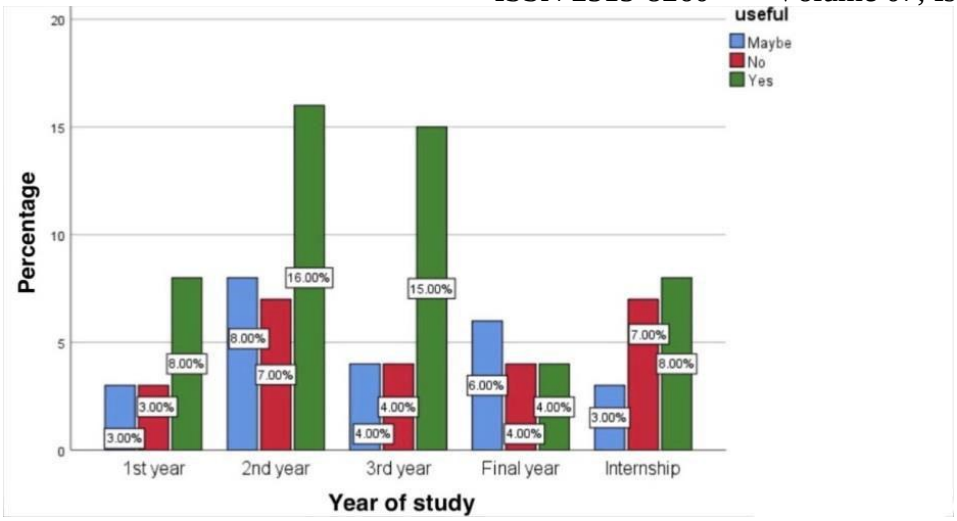

Figure 16.Bar graph representing association between year of study and response of students regarding the usefulness of online classes during lockdown. X axis represents the year of study and Y axis represents the percentage of responses regarding the usefulness of online classes during lockdown. There is an increase seen in second years (16%) and third years (15%) who responded yes, who reported that they find online classes to be useful during the lockdown period. Chi square analysis was done (Pearson Chi SquareValue= 7.664), the P value was 0.467($p>0.05$), which was not found to be statistically significant.