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### EFFICACY OF ONLINE TEACHING AMONG COLLEGE STUDENTS - A QUESTIONNAIRE BASED SURVEY

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#### **ABSTRACT**

Online classes are an effective tool for information, communication and usage of technology for learning. Students can view course syllabus for the year, assess academic progress of themselves and fellow students and follow the guidelines of the instructors with ease. The instructors also conduct activities to add some crispness to the class like puzzles, voice, crossword, mind maps, diagram mapping and furthermore activities are performed in the class to gain the attention of all the students. The aim of the present study is to assess the efficacy of online teaching among college students. Self administered questionnaire of close ended questions was prepared related to online classes and distributed among undergraduate

college students through online survey forms "GOOGLE FORMS". Demographic details were also included in the questionnaire. The responses were collected, tabulated in excel sheet and analysed. Statistical analysis was done in SPSS software version 22. The method of representation of data used here is Pie chart. The results reveal a high agreement of students that is 97.1 percent of the respondents States that the online classes are very useful, 76.5 percent of the respondents are self motivated. The present study concludes that awareness and attitude towards online classes is well beyond expectation with acceptance from students across the city.

## INTRODUCTION

Online classes are an effective tool for information, communication and usage of technology for learning. Students can view course syllabus for the year, assess academic progress of themselves and fellow students and follow the guidelines of the instructors with ease. The instructors also conduct activities to add some crispness to the class like puzzles, voice, crossword, mind maps, diagram mapping and furthermore activities are performed in the class to gain the attention of all the students. Using internet facilities like Google classroom, zoom classrooms, teamly application and further more online internet services but it initially classes requires a lot of time and to build up and plan the schedules for the online classes. Various awareness studies have been done on health disciplines, ethics, evidence based dentistry, oral biopsy among dental students (Prasanna and Gheena, 2016, Ahad and Gheena, 2016, Hannah et al., 2018, Sheriff et al., 2018, Krishnan et al., 2018, Uma *et al.*, 2020, (Gunasekaran and Abilasha, 2016) and it is considered that the success factors in using online learning is defined in terms of ease of access for students and teachers, student's satisfaction and the provision of a variety of online tools for various purposes like education, research, case study, awareness surveys etc.

More research is required to uncover and understand the success factors that are critical to implement successful online learning. Some students are taking online teaching very stressful which is not good for their health and this may cause hypertension. These types of students must be treated with care. In online teaching, colleges may provide general knowledgeable lectures for willing students to gain knowledge. The technology has been developing day to day which is highly useful in educational aspects for students like introducing the iPad system without carrying heavy textbooks or notebooks, without destroying mammoth trees.

Development of organisations on offering the separate training course for the quantity and the quality of the understudies taking online teaching which was also applied in medical negligence (Abouelkheir, 2019). Dental students- Louisiana state university School of dentistry participated digital textBook Programme (Strother et al., 2009). Use of technology to support the teaching, learning the dental education. Advanced types of technologies to easy access for the information to tremendous influence on education (Grabe and Christopherson, 2007). Previous study for the reported lectures useful than online teaching many studies found that the online teaching that requires large workload than the teaching in class. Distance Course takes Less time to teach

conventional class courses (Asiry, 2017; Shah, 2017). Other studies complain online labour-intensive time grade papers. Another study found that significant amount of time is required to an individual to interact to the instructor (Azimi et al., 2019) Many studies in a dental college set up use digital aids to identify individuals using teeth (Abitha and Santhanam, 2019) (Harrita and Santhanam, 2019)

Amount of the time spent to the teaching online post to increase directly to the number of students to be enrolled. Amount of the time spent teaching online over twice to spend for teaching in the class (Posey and Pintz, 2006). Students' appraisal of the tools and value of online learning and evaluation of their attitudes are important factors that are essential to judge the success of any online learning system. The learning environment within college of dentistry at King Saud University has not yet adopted a well-organized online learning structure and tools. Online based surveys also helps to gain knowledge about various fields of dentistry like periodontics, prosthodontics, oral pathology etc (Manohar and Abilasha, 2019; Padavala and Sukumaran, 2018; Palati et al., 2019, 2020; Shree et al., 2019) Therefore, this study was conducted after the implementation of first online learning attempt within the preclinical orthodontic course to identify the readiness of students to move online, to investigate their preference and perception, and to measure the quality of online tutorials. Online education provides opportunities to share information to more easily and to more easily in a easiest way. Teachers and students are able to join the online community that is based based on area of interest at geographical location. Current situation of online teaching is essential for students and it is must. The aim of the present study is to conduct a survey on the efficacy of online teaching.

## **MATERIALS AND METHODS**

Cross sectional study was conducted among the college students on the efficacy of online teaching. The questionnaire was distributed among the college students through the online forum (google forms application), the responses were collected and tabulated. The questions mainly focused on the importance of the online classes and the view of students on the ongoing online classes. The sample size of the present study is 100. The results were analysed and statistically tabulated using the SPSS software. To determine the association between certain parameters, chi square test was used.

## **RESULTS AND DISCUSSION**

The present study was conducted to analyse the impact of online classes among the college students. The sample size of the present study is of 150 students from various colleges across the city. Figure 1 represents the responses on awareness about online classes. 97.06% of the respondents are already aware of online classes and the minority of 2.941% are not aware of the online classes and the importance of the online classes. Figure-2 represents the response to whether online classes affect health. Majority of 80.88% of the respondents felt that they are very comfortable in using iPads or mobile phones or computers for the purpose of online classes. While the minority of

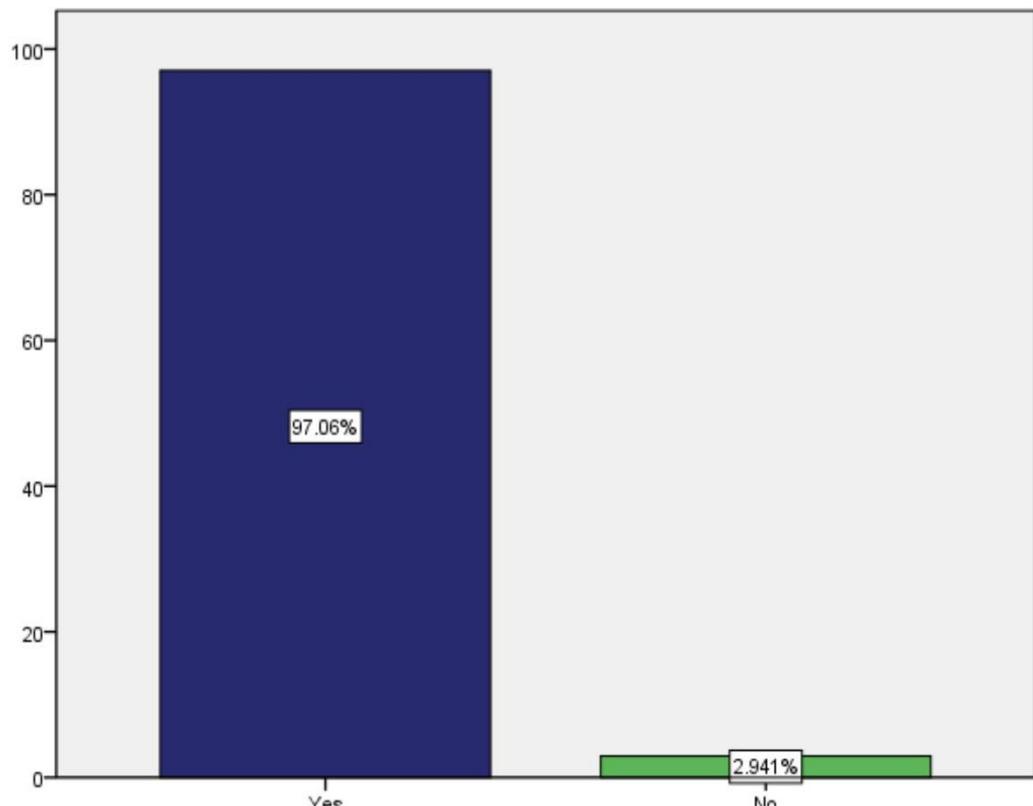
19.12% felt that the online classes which are held by the means of mobile phones, iPads or computers affect their health. Figure-3 represents the response regarding effectiveness of online classes.. Majority of 64.71% of the students felt that the online classes are more effective than the normal classes which are in classrooms at college. The remaining people said that The classes were neither effective nor useful. Figure 4 represents response for the experience of online classes based on network and connectivity. Majority of 77.94 percent of the respondents felt that they had network issues during the online classes as they could not connect to the classrooms properly. Minority of only 22.06% of the respondents Experience good network Connection. Figure-5 represents the response for whether online classes induced self motivation to complete work on time.. About 76.47% of the respondents are self-motivated and are able to do the work which was assigned as assessment during online classes, Minority of 23.53 % of the respondents feel some difficulties while solving and completing the work. Figure 6 represents whether participants were comfortable using iPad or mobile phones.. 63.2 % of the respondents felt that they are comfortable with spending several hours on the computer or iPad or mobile phones but a minority of 36.8% of the respondents felt difficult and faced some health related and eye related problems. Figure 7 represents response for knowledge gained from online classes. 47.06% of the respondents felt they pursue or gain knowledge, 22.06% respondents said it causes some imbalance during the online class programmes, so they face difficulties to gain knowledge. 30.88% respondents said they gain some knowledge and also face some difficulties. Figure 8 represents the response regarding problems faced during online classes. 63.24 % of the respondents felt the problem was screen time, 36.76 % of the respondents felt that they had no issues . Figure 9 represents the response for whether online classes are useful. 82.35% of the total study population gained knowledge and felt that this survey was very useful.

Association of the gender and the various parameters discussed to assess the efficiency of online classes was analysed using chi-square test and depicted in the graphs ( Figure 10-12) p value ( $<0.05$  ) was considered to be statistically significant. Figure 10 represents the association of gender and health problems faced by the participants due to online classes. Males had faced many health problems than females. P value = 0.098 ( $>0.05$ ) which is statistically not significant. Figure 11: represents the association of gender and knowledge gained by the participants during online classes. Males have gained more knowledge than females. However this is statistically not significant. P value = 0.103 ( $>0.05$ ) Figure 12 represents association between gender and knowledge about benefits of online classes. Males felt online classes are more beneficial.

The ease of access and use of online tools, applications are extremely important for the successful implementation of the online learning (Zameer et al., 2016) Further the students should have the necessary technical skills and good quality of interest services to utilise efficiently and make use of the given online classes. Online learning saves time, reduces costs, offers various multimedia matching different learning styles, allows students to learn (Oermann, 2013) anywhere at any time outside classroom, overcomes shortage of faculty, and has the potential to shift the learning

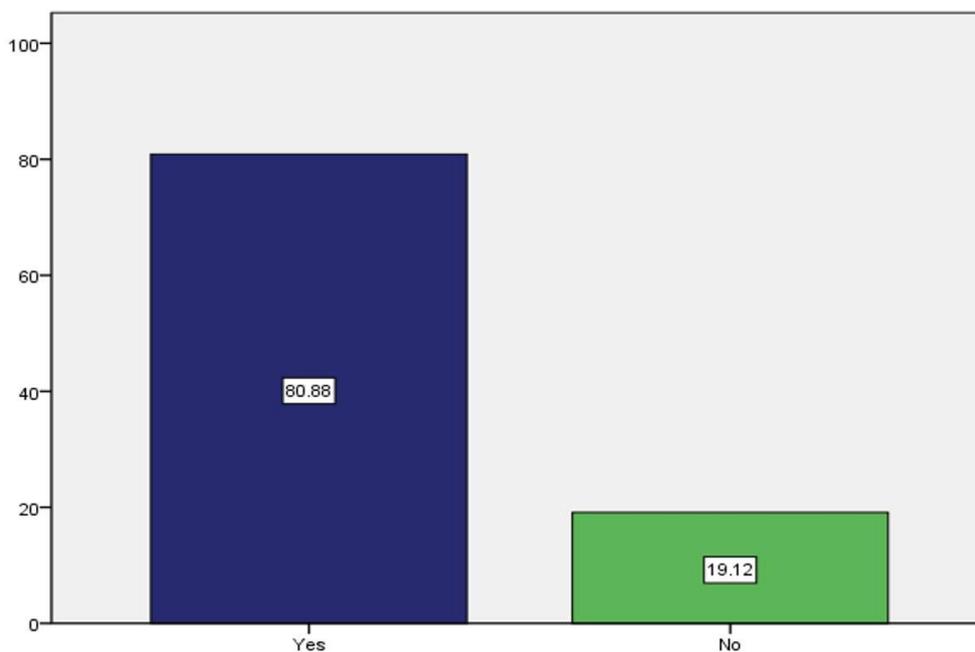
process from passive teacher-centered learning active learner-centered learning (Sarbeen et al., 2016). (Sriram et al., 2015) contents. (Asiry, 2017), (Abouelkheir, 2019; Selvam and PanneerSelvam, 2016). Furthermore the effective online learning requires the suitable hardware and software in addition to easy their navigation tools. (Sheehan and Wilkinson, 2018)

Previous studies by Dian scaffauser et al (Chin and Koh, 2017) states that 85 percent of the participants agreed online learning is better rather than attending courses in the campus which closely contradicts with our study. In his study Kilis states 52 percent of the participants agreed that the impact of online classes increases their academic performances which closely contradicts our study. Several others like Sahana et al. (Kilis and Yildirim, 2019) States that 54.7 percentage of the participants are aware of online classes that in our study the majority of 97.1% of the study populations are aware of online classes and make use of online classes and gain knowledge by the means of online classes. Previous study by J.Bari, in the study States that 34 percentage of the participants suffers because of the network problems and they face Troubleshooting issues which closely contradicts with our study that 77.9 percentage the respondents felt they had network issues during online classes. The present study has certain limitations that the sample size can be more and include a larger population of various age groups. Further studies help to explore intervention, best to improve awareness and knowledge of online teaching classes among different groups of populations.

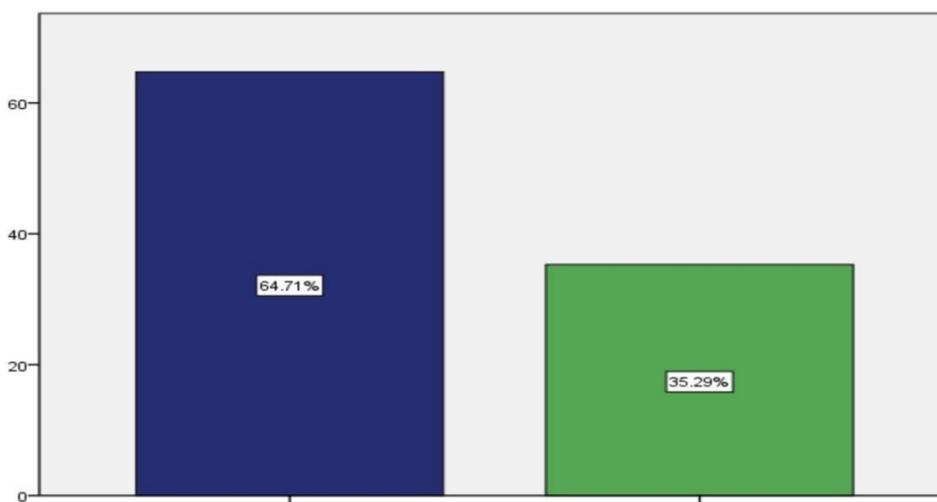


**Figure 1** - Bar graph representing responses on awareness about online classes. X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No .97.06%

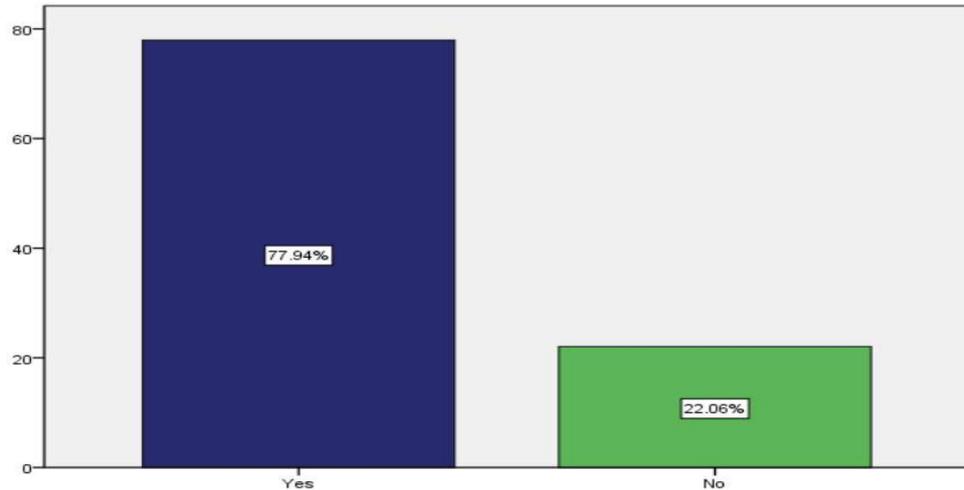
of the respondents are already aware of online classes and the minority of 2.941% are not aware of the online classes and the importance of the online classes



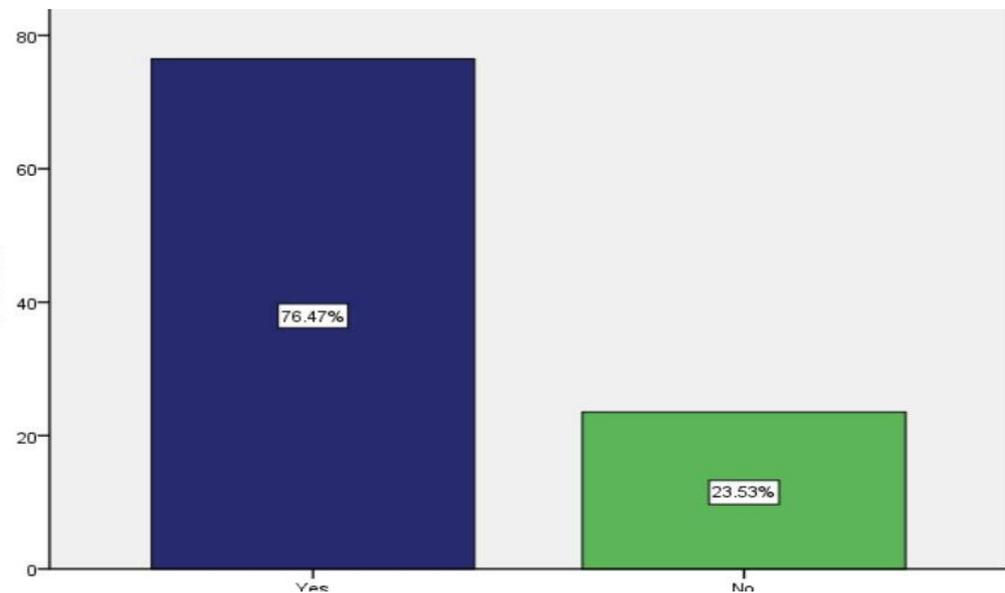
**Figure-2:** Bar Graph representing response to whether online classes affect health. X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No. Majority of 80.88% of the respondents felt that they are very comfortable in using iPads or mobile phones or computers for the purpose of online classes. While the minority of 19.12% felt that the online classes which are held by the means of mobile phones iPads or computers affects their health



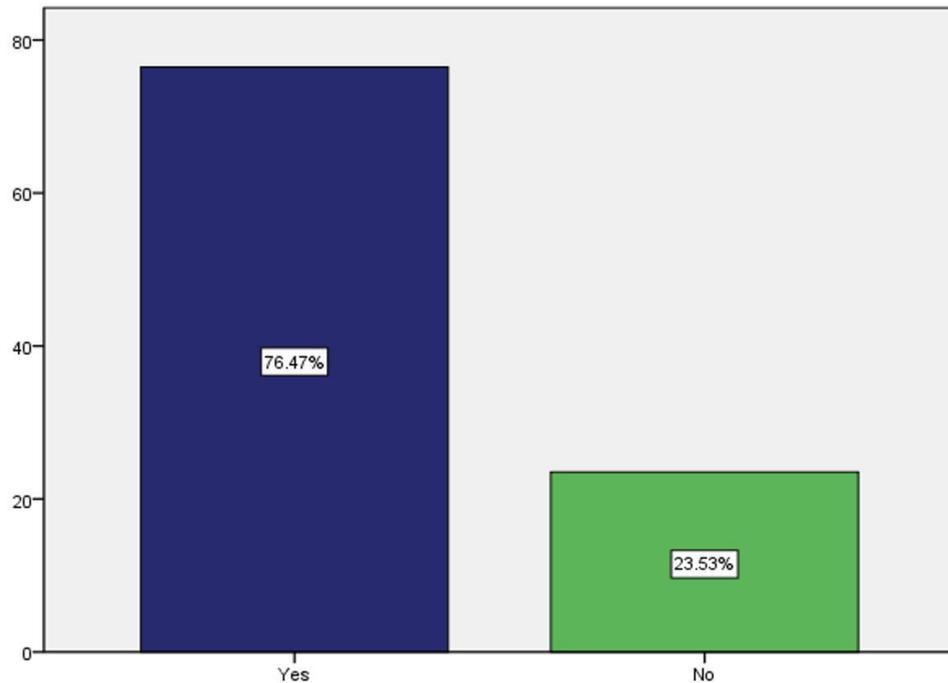
**Figure-3:** Bar graph representing effectiveness of online classes. X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No. Majority of 64.71% of the students felt that the online classes are more effective than the normal classes which are in classrooms at college. The remaining people said that The classes were neither effective nor useful.



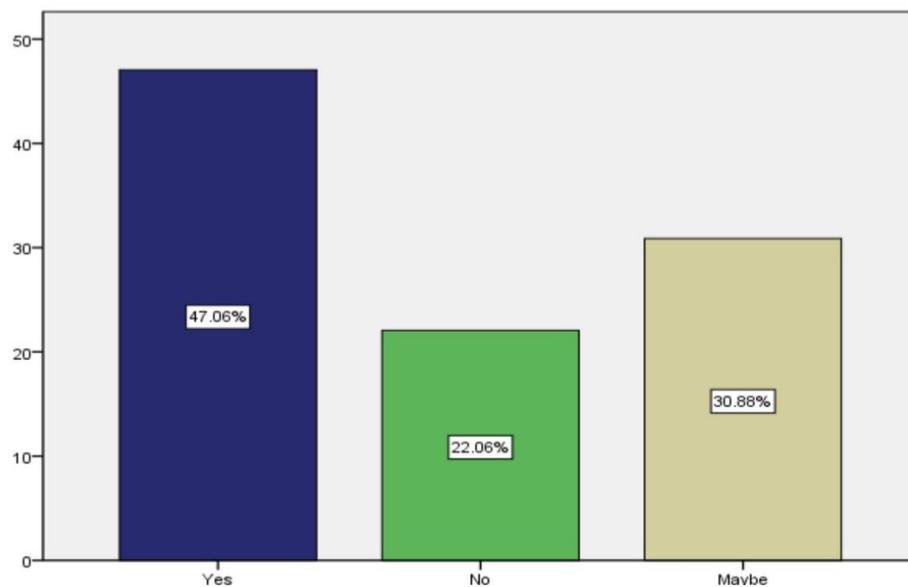
**Figure-4:** Bar graph representing experience of online classes based on network and connectivity. X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No. Majority of 77.94 % of the respondents felt that they had network issues during the online classes as they could not connect to the classrooms properly. Minority of only 22.06% of the respondents Experience good network Connection.



**Figure-5:** Bar graph representing whether online classes induced self motivation to complete work on time. X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No. About 76.47% of the respondents are self-motivated and are able to do the work which was assigned as assessment during online classes, Minority of 23.53 % of the respondents feel some difficulties while solving and completing the work.

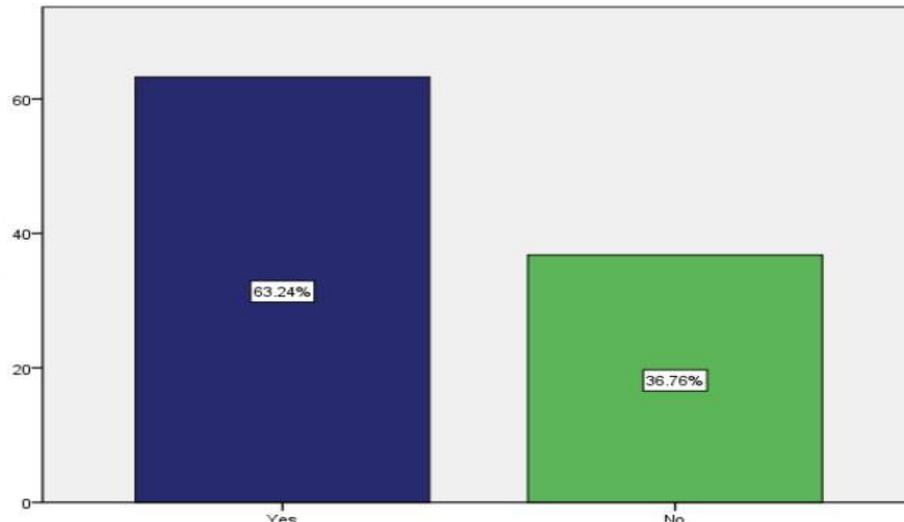


**Figure - 6:** Bar Graph representing whether participants are comfortable using iPad or mobile phones. X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No . 63.2 % of the respondents felt that they are comfortable with spending several hours on the computer or iPad or mobile phones but minority of 36.8% of the respondents felt difficult and faced some health related and eye related problems.

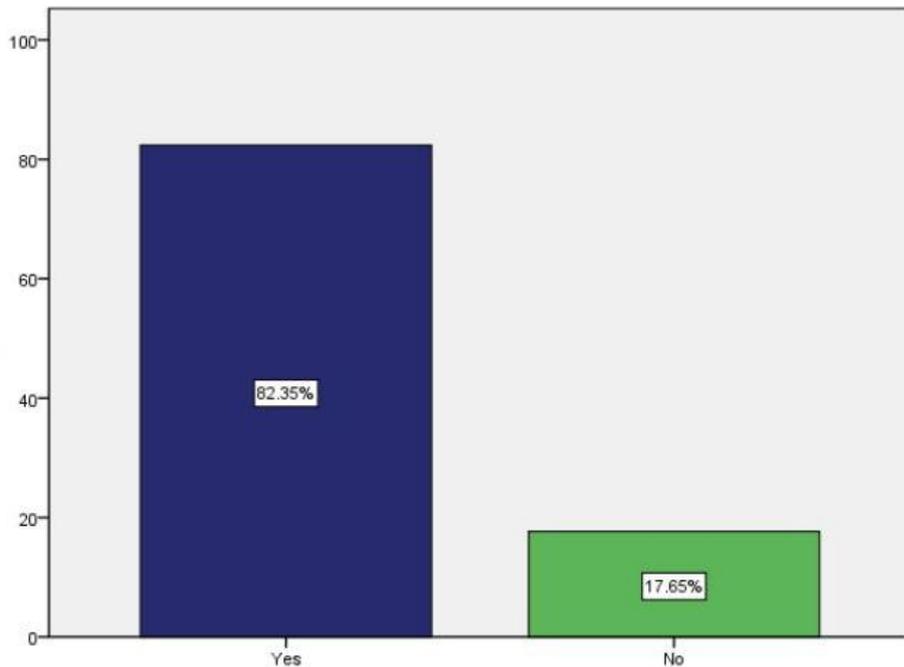


**Figure-7 :** Bar Graph representing response for knowledge gained from online classes. X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No .47.06% of the respondents felt they pursue or gain knowledge, 22.06% percent respondents said it causes some imbalance during the online class

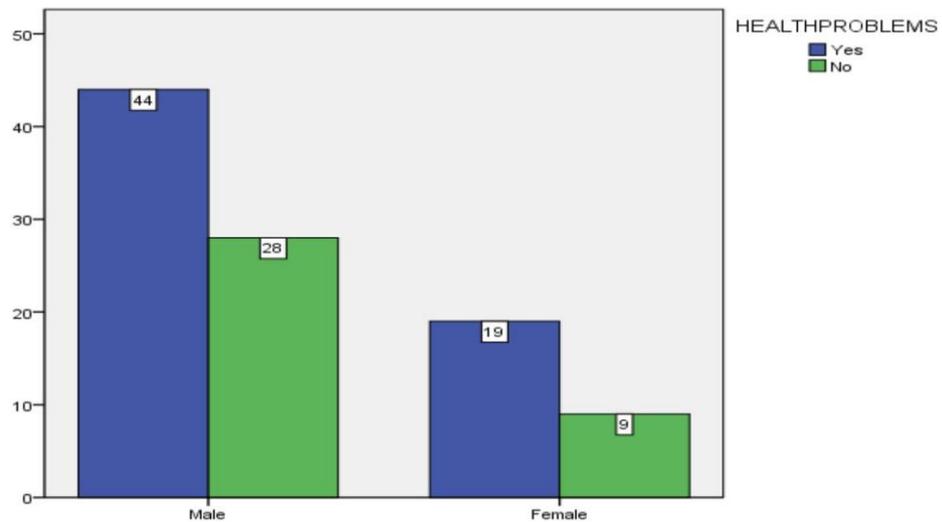
programmes, so they face difficulties to gain knowledge. 30.88% respondents said they gain some knowledge and also face some difficulties.



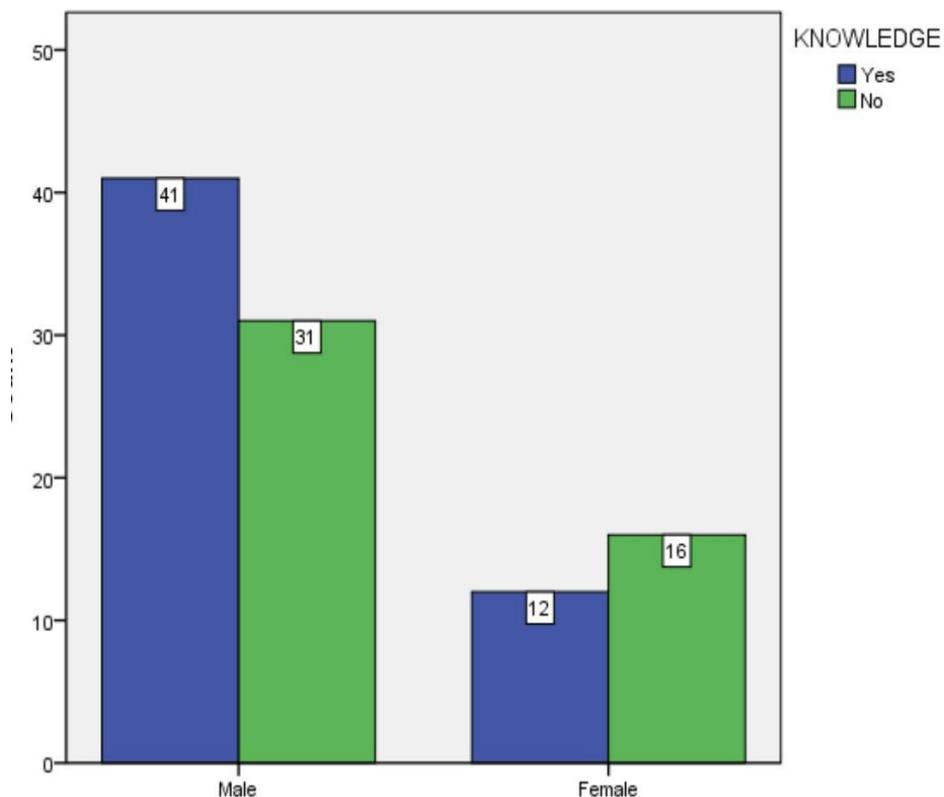
**Figure-8:** Bar graph representing problems faced during online classes X axis represents the responses of participants and Y axis represents the percentage of responses. Blue denotes Yes and Green denotes No .63.24 percent of the respondents felt the problem was screen time, 36.76 percent of the respondents felt that they had no issues .



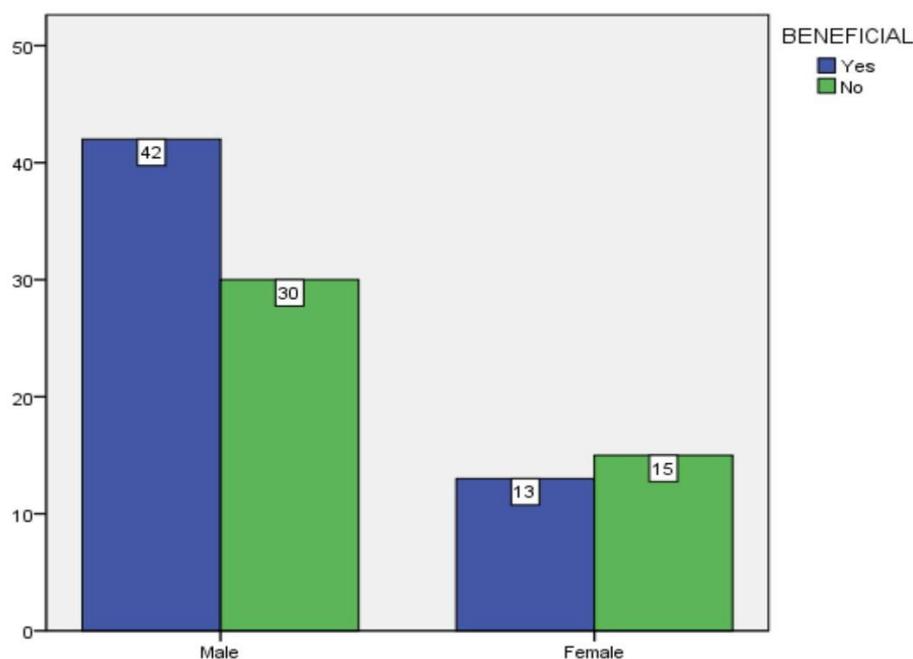
**Figure 9-** Bar graph representing whether online classes are useful.X axis represents the responses of participants and Y axis represents the percentage of responses.Blue denotes Yes and Green denotes No . 82.35 percent of the total study population gained knowledge and felt that this survey was very useful .



**FIGURE-10:** Bar graph representing the association of gender and health problems faced by the participants due to online classes. X axis represents the gender and Y axis represents the number of responses. Blue denotes Yes and Green denotes No. Males have faced many health problems than females. Pearson chi square test- 0.063 , P value = 0.098 (>0.05) - statistically not significant.



**FIGURE 11:** Bar graph representing the association of gender and knowledge gained by the participants during online classes. X axis represents the gender and Y axis represents the number of responses. Blue denotes Yes and Green denotes No. Males have gained more knowledge than females. Pearson chi square test- 0.100 , P value = 0.103(>0.05) - statistically not significant.



**FIGURE 12:** Bar graph representing association of gender and knowledge on benefits of online classes. X axis represents the gender and Y axis represents the number of responses. Blue denotes Yes and Green denotes No. Males felt more beneficial about online classes. Pearson chi square test- 0.107 , P value = 0.100(>0.05) - statistically not significant.

## CONCLUSION

Overall positive responses were reported by the students regarding acceptability and the students considered online learning helpful as a supplement to their learning rather than a replacement for traditional teaching methods. Further studies are recommended to evaluate both subjective and objective outcome measures of online learning and teaching. Some more steps have to be taken to improve the quality of online classes among students.

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