

Attitude and perception of newly joined orthodontic post graduate students towards COVID-19 pandemic- A nation-wide survey

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Abstract

Aim: The aim of the research was to see how the COVID-19 pandemic would affect orthodontic postgraduate program.

Materials and Methods: A questionnaire-based cross-sectional study was conducted for first year Orthodontics post graduate students of India and was sent to 531 first year post graduate students, out of which 297 reverted. The questionnaire consisted of basic demographic details of the participants, questions to assess their attitude toward choosing Orthodontics as their subject and if and how do they think that COVID-19 pandemic can affect their post graduation program.

Results: 53.9% students chose orthodontics as their postgraduate subject because there was a lack of clinical elaboration in their undergraduate program. About 54.9% respondents were apprehensive towards joining post-graduation program during COVID-19 pandemic whereas about 73.1% respondents agreed that pursuing post-graduation in COVID-19 era is better than setting up a private practice. About 93.6% respondents agreed that COVID-19 pandemic allowed them to learn from digital platform.

Conclusion: There has been apprehension among newly joined post graduate students regarding COVID-19 pandemic but with the new ways of learning, it is possible to cope up with the apprehension to some extent.

Keywords: COVID-19; Orthodontics; Post graduation; Questionnaire

Introduction

A pandemic is described as "an outbreak that happens globally or across a wide region, crosses international borders, and generally affects a large number of people."¹ Recently, COVID-19 (Coronavirus disease 2019) pandemic has led to some immensely radical changes in the entire world. According to WHO timeline, the Wuhan Municipal Health Commission in China reported a cluster of new cases of pneumonia on December 31st, 2019, the cause of which was subsequently described as a novel corona virus COVID-19.² The transmission of virus was found to be mainly by droplets generated by an infected person. COVID-19 was declared a true pandemic by the World Health Organisation on March 11th, 2020, owing to the widespread transmission of the virus and the severity of the infection.³ This novel corona virus can cause a wide variety of symptoms, including fever, sore throat, cough and nasal obstruction, as well as loss of smell and breathing difficulties.⁴ Public health programmes are important to slow the transmission of illnesses, much like they are with other infectious diseases like the flu or the common cold. Hence, nations around the world have implemented various public health and social measures which involves actions on individual as well as at public level to suppress the community spread of COVID-19.⁵

The pandemic outbreak has been alarming and potentially distressing for the whole healthcare community including dental fraternity. Dentistry is one of the most susceptible occupations to the COVID-19 virus, according to the New York Times.⁶ Dentists and other dental auxiliaries have to work in close proximity to patients' faces for prolonged periods. Various dental procedures involve frequent exposure to aerosols, saliva and blood.

Consequently, their risk of being infected with Severe Acute Respiratory Distress SARS-CoV-2 or cross infections to patients is high. Dentists all over the world have been asked to provide only the most critical dental services. CDC recommends using additional safety precautions during the COVID-19 pandemic while providing treatment to all patients.⁷ Despite of all the precautionary measures taken at individual and country level, the COVID-19 virus has been spreading like wildfire around the globe.

The Indian government had implemented a nationwide lockdown to deter further spread and lessen the negative impacts of the outbreak.⁸ During this period, only the essential services were accessible to the citizens. This affected nearly every sector of the global economy. One of them is the higher education sector. Exams have been delayed and results have been postponed. Over the past months, commands have been enforced on education officials to postpone their classes and shut their campuses in response to the growing Corona virus outbreak.

On the basis of NEET MDS exam conducted on December 20th 2019, admissions into various post graduate dental programs across the country began on April 11th 2020. Following which, the students reported to their respective clinical and non-clinical branches in various dental institutions.⁹ The complete counselling and joining procedure was done online because of countrywide travel restrictions. To ensure safety to both students and the administrative staff, the candidates were tested for COVID-19 before joining the institutes. However, a dearth of clinical exposure may present itself as a challenge to dental students, particularly those attempting to choose an elective clinical specialty like Orthodontics. The current scenario has changed the perspective of students towards joining post

graduate program in orthodontics during this pandemic.

Materials and Methods

A questionnaire-based cross-sectional study was conducted for first year Orthodontic post graduate students of India to examine the impact of COVID-19 pandemic on orthodontic post graduate program. The questionnaire was made using an online survey platform and was sent to 531 first year post graduate students, out of which 297 reverted. The questionnaire consisted of basic demographic details of the participants, questions to assess their attitude toward choosing Orthodontics as their subject and if and how do they think that COVID-19 pandemic can affect their post graduation program. The questionnaire was structured and assessed following a four step method.¹⁰

1. Face validation.
2. Pilot data preparation.
3. Content validation.
4. Content reliability.

Validation of the questionnaire

1. **Face validation and pilot data preparation-** A pilot test of the questionnaire was conducted on a small sample of respondents to establish the face validity of the questions. Four general and demographic questions and ten well structured and close ended questions were included in the questionnaire.
2. **Content validity-** A panel of SME (Subject Matter Experts) was formed to establish the content validity and the questions were reviewed to make sure they are accurate, free of item construction problems and grammatically correct.
3. **Content reliability-** Cronbach’s alpha is a commonly employed index of test reliability. The value was calculated to be 0.8 which indicated acceptable internal reliability.¹¹

After thorough evaluation of the questions, the final questionnaire was sent electronically to 531 first year Orthodontic post graduate students across India via social media platform.(Fig.1) Reminders were sent to all the participants 48 hours later and after a week to ensure maximum participation. None of the questions were left unattempted and confidentiality was maintained throughout the process. The data was collected and the results were obtained using the features of the online survey platform.

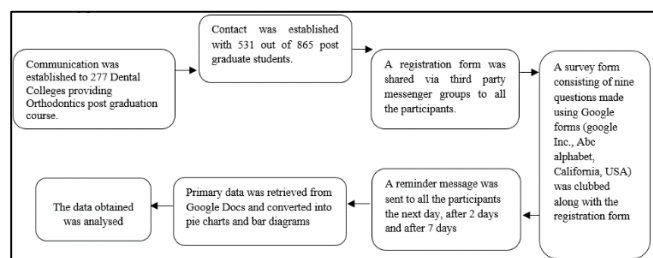


Fig: 1 Methodology

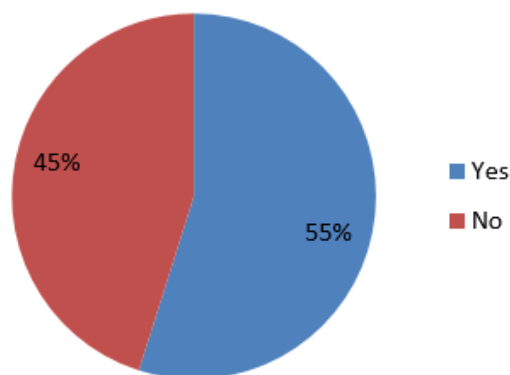


Fig 2: Percentage of participants who had an apprehension of joining post graduation during COVID-19 pandemic era.

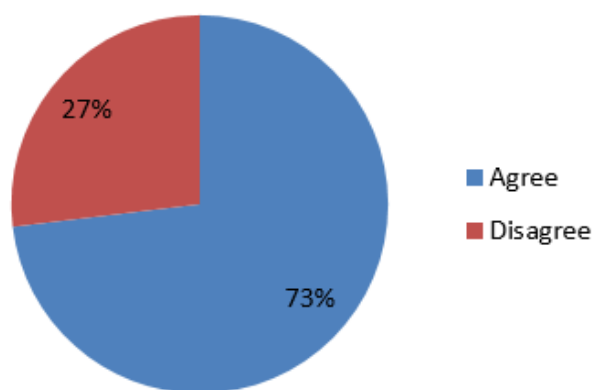


Fig: 3 Percentage of participants in favour of doing post graduation rather than setting up a private clinic.

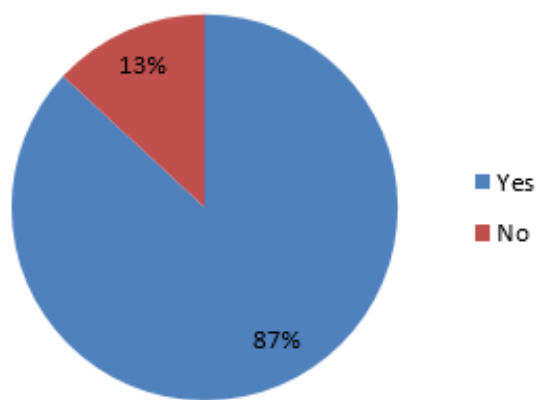


Fig: 4 Percentage of participants who anticipated that COVID-19 might affect their post graduation curriculum.

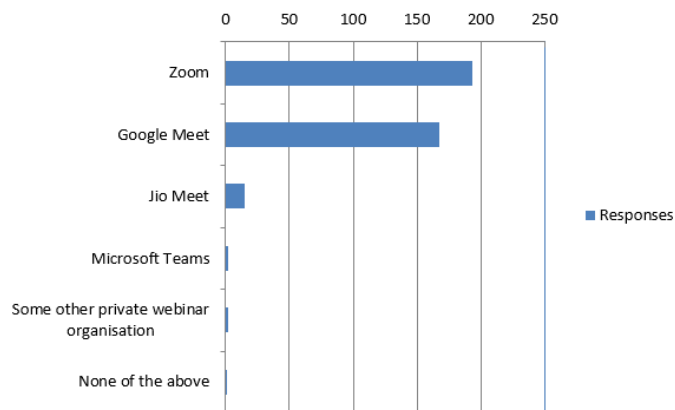


Fig: 5 Participants and their choice of digital platform

Table 1 Purpose of choosing Orthodontics as post graduation subject.

| Options | Responses |
|--|-------------|
| Out of choice | 114 (38.4%) |
| Peer pressure | 5 (1.7%) |
| Not clinically elaborated in undergraduation | 160 (53.9%) |
| More revenue generating | 92 (31%) |
| All of the above | 26 (8.8%) |

Table 2 Plans to overcome difficulties due to COVID-19 pandemic

| Options | Responses |
|--|-------------|
| Hasten your pre-clinical work | 99 (36.1%) |
| Involve in online academic work | 125 (45.6%) |
| Attending online stress relieving programs | 38 (13.9%) |
| Apply for short term research project | 67 (24.5%) |
| All of the above | 141 (51.5%) |

Results

Out of the 531 survey forms sent, 297 responses were obtained (Day 0- 87, after 2 days-107 and after day 7-103). The response rate was 55.9 %. According to the responses, 53.9% students chose orthodontics as their postgraduate subject because there was a lack of clinical elaboration in their undergraduate program and about 38% respondents chose out of interest (Table 1). When asked about their future plan after completing the course, 62.3% respondents said that they would start their private practice and 47.1% said they would go into academics. About 54.9% (Fig.2) respondents were apprehensive towards joining post-graduation program during COVID-19 pandemic whereas about 73.1% (Fig.3) respondents agreed that pursuing post-graduation in COVID-19 era is better than setting up a private practice. About 87% (Fig.4) respondents anticipated that COVID-19 might affect their post graduation curriculum.

When asked about how they would cope with the effects of pandemic on their post-graduation program, 45.6% said they would get involved in online academic work whereas 51.5% said they would also hasten their pre-

clinical work, attend online stress relieving programs and apply for short-term research project (Table 2).

About 93.6% respondents agreed that COVID-19 pandemic allowed them to learn from digital platform, 65% amongst them chose Zoom and 56.2% chose Google meet app as their choice of digital platform (Fig.5). Post COVID-19, about 24.8% respondents would like to continue with webinars, 18% would like to switch back to offline CDE programs and about 56.8% chose both webinars and offline CDE programs.

Discussion

The novel human coronavirus transmission is by respiratory droplets predominantly, but aerosolization is also possible from speaking or singing and fomites.¹² The virus is found in respiratory secretions and saliva. Therefore it possesses a potential threat to dentists and the dental auxiliaries. To combat the transmission of the virus in and through the dental community, the Dental Council of India on April 16, 2020 issued certain guidelines for dental colleges, dental professionals and dental students.

This study evaluates the outlook of students on pursuing post graduate courses in the branch of orthodontics during an ongoing COVID-19 pandemic. The results showed that about 53.90% students chose orthodontics as their specialty of choice as it was not clinically elaborated at the undergraduate level. This can be explained by the fact that the branch of orthodontics was established as a true specialty since it differs from all other branches of dentistry. The goals of the undergraduate orthodontics syllabus has been to train students to diagnose malocclusions and refer them to an orthodontist.¹³⁻¹⁴ Whereas, about 38.4% students chose orthodontics out of interest and about 31% made their choice based on the idea that orthodontics is a more avenue generating branch compared to other branches.

About 62.3% students have planned to open a private practice after completing their post graduation and 47.1% will join academics. Whereas about 19.2% were interested in research projects and about 12.1% inclined towards entrepreneurship. This may refer to the fact that the future orthodontists are not necessarily looking at traditional orthodontic practice as their main career and their interests have changed from previous generations. This has contributed to the increased appeal of alternative modalities for practise.¹⁵

The study also showed that about 54.9% students were apprehensive towards joining post graduation during the pandemic. The International Labour Organization (ILO) 'Youth and COVID-19: impacts on jobs, education, rights and mental well-being' survey found that approximately 50% of youngsters around the globe are possibly being exposed to anxiety or depression, while approximately 17% are suffering from it.¹⁶ Majority (73.1%) of students had the opinion that pursuing post graduation in COVID-19 era is better than setting up a private clinic. This may be due to the two main reasons. The current guidelines by the Dental Council of India to all practitioners to only provide emergency treatments and avoid all non-emergency and

cosmetic treatments to the patients.¹⁷ Also due to high transmission rate of the SARS CoV-2 virus; there has been a sharp decline in the number of patients visiting dentists.¹⁸

About 86.9% students anticipated that the pandemic might affect their post graduation curriculum. This might be true due to the changing norms of higher education, especially in non-emergency branches like orthodontics. All the routine clinical activities are deferred and all the routine academic activities like seminars, journal clubs and other discussions are carried out using various technology platforms. Almost all (93.6%) students agreed that the pandemic has allowed them to learn from the digital platforms. Among which, Zoom (65%) and Google Meet (56.2%) were chosen as the most user friendly and secure applications. The possible reasons could be better user interface, less disruptions, short learning curve, better meeting links and screen sharing, affordability and better compatibility with various operating systems.¹⁹

Almost all (96.9%) students have agreed that due to the pandemic, they now have better connectivity to national and international universities with the help of digital platforms. From June 28, 2020 The Dental Council of India has also introduced its free of charge Webinar programs which covered various topics quintessential for all undergraduate and postgraduate dental students, faculties and practitioners.²⁰

Although the pandemic is still on its rise, when asked about the post COVID times, about 24.8% students would like to continue with webinars whereas 18% would like to switch to offline Continuing Dental Education (CDE) programs. About half (56.8%) students would like to have a balance between the two. This shows that despite of excellent communication by online digital platforms, students might suffer from “Zoom fatigue” i.e., the exhaustion associated with over use of virtual platforms.²¹

Conclusion

Given the anxiety and uncertainty surrounding the coronavirus pandemic, it is understandable for students who applied to dental schools to worry that the crisis might interfere with their postgraduate study plans. The COVID-19 crisis has taken away at least six to eight months from their productive life irrespective of the stage they are in their degree. Despite these challenges, dental students including postgraduates need to adapt the new learning methods of blended learning that combines both online and offline methods.

Source of Funding

None.

Conflict of Interest

None.

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