

EFFECT OF COVID -19 PANDEMIC ON THE EDUCATION OF POST GRADUATE STUDENTS IN THE FIELD OF PERIODONTOLOGY IN NORTH INDIA

Periodontology

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ABSTRACT

Aim : To evaluate the challenges faced by students pursuing post-graduation (PG) in the field of Periodontology during time of covid pandemic and suggested remedial measures. **Objective :** 1. To identify the specific problems faced by 124 PG students of North India in field of Periodontology during covid pandemic. 2. To evaluate the obtained data. 3. Based on the above, to suggest changes and copying strategies for students and the institutions in such circumstances. **Conclusion:** Trainees in periodontology dental speciality put their best efforts at the time of pandemic in spite of high levels of stress and a feeling of inadequacy. In such circumstances, it is always imperative to validate their efforts, and implement a versatile approach in evaluating them to safeguard psychological health. Moreover, some changes made by local authorities of institution as well as through a proper directive guidelines of the Dental Council of India for their alternative methods of training and evaluation can help in combating such difficulties in future. A ready reference of 'Standard operative procedures' (SOP) can also be prepared and kept at hand in case of such circumstances if they arise again.

KEYWORDS

Covid-19, pandemic, post graduate students, Periodontology

INTRODUCTION

The 2019 novel coronavirus (2019-nCoV) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) was declared as a pandemic by the World Health Organization (WHO) on 11th March 2020.^[2]

To contain and prevent the pandemic, Government of India actively adopted various measures and a national lockdown on March 25, 2020. It encouraged social distancing, and issued comprehensive infection control guidelines which included the use of sanitisers, masks, personal protective equipment (PPE).^[3,4]

These measures were helpful for the general population but increased the challenges for the PG residents enrolled in the dental post graduate programs. Students pursuing periodontology as their master's degree were facing immense difficulties being a surgical specialty. It was observed that the patients coming to the department were reluctant towards surgical procedures even after the decline of number of covid cases all over.

Routine out-patient department (OPD) services and elective surgeries were either postponed or cancelled which decreased patient footfall to hospitals. The institutes and hospitals had re-organized their services with cancellation of physical lectures, clinical exposure, journal club activities and teaching activities.^[5] This had affected overall teaching and learning in an unexpected manner. Collectively speaking, the PG teaching was going through difficult times during COVID-19 pandemic.

This article provides a bird's eye view about the problems faced by Post Graduate students during the covid times. Also, the aim is to help us prepare for the future challenges due to such pandemics in imparting education of surgical specialties where a close interaction between the surgeon and patient is inevitable.

MATERIAL AND METHODS

Study design:

This cross-sectional study was conducted from November 15, 2021 to January 15, 2022, to study the problems faced by PG students in Periodontology in North India. A questionnaire of 18 questions was created and circulated among students pursuing post-graduation degree in Department of Periodontology in North India including all

government and private colleges/hospitals. This consisted of adequacy of interaction between professors and students in terms of theory classes and seminars held in the department and satisfaction of online classes. Also, if the number of patients allotted to each resident for purpose of surgical training and thesis study and interaction with them were sufficient. Others included mental wellbeing due to stress in such situation.

Inclusion criteria:

The target population for this study was PG students who were pursuing Masters in Periodontology from teaching institutions within the North India during covid.

Data collection:

The responses submitted were checked for duplication, pooled, analyzed, and summarized.

Evaluation:

The survey focused on following points

1. Impact on postgraduate teaching and its current status.
2. Impact on clinical/surgical training.
3. Impact on Dissertation/thesis.
4. Number of PG students contacted COVID-19
5. Effect on mental wellbeing.

RESULTS

General characteristics:

The survey was sent to the 132 Dental post graduate students pursuing masters in department of periodontology, who could be traced in North Indian Dental teaching institutions. A total of 124 responses were collected in the survey, with a 93.94% response rate. Total 124 responses were included in the final analysis of results.

Table 1: Socio Demographic

Socio Demographic	Options	Frequency	Percentage
Age Group (Years)	22--26 Years	71	57.26%
	27-31 Years	50	40.32%
	≥32 Years	3	2.42%
Gender	Male	54	43.55%
	Female	70	56.45%
Year of the Study	1 st Year	58	46.77%

2 nd Year	37	29.84%
3 rd Year	29	23.39%

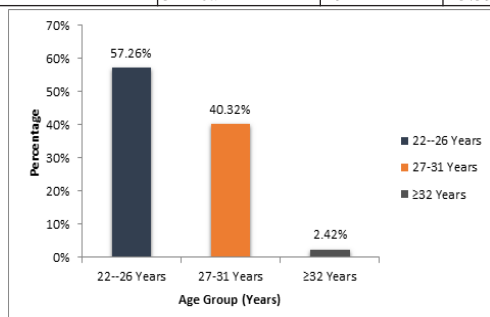


Fig. 1

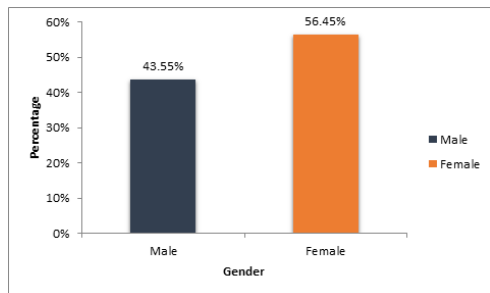


Fig. 2

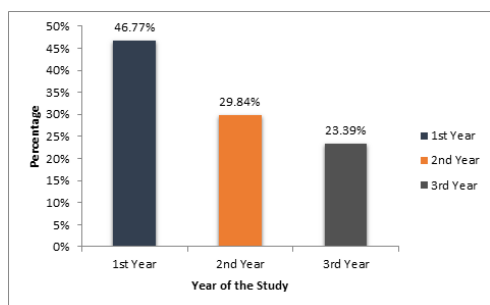


Fig. 3

1. Impact on postgraduate teaching

Prior to COVID-19 pandemic, almost every PG student used to attend theoretical classes twice or thrice in a week. However, 10 percent respondents reported that regular theoretical classes itself were not practiced at their institution. During the COVID-19 pandemic, the number of classes had been significantly reduced to none as reported by 37 percent students, twice or thrice a week by 24 percent and once a week by 29 percent. ($X^2=6.40$; p value=0.011)

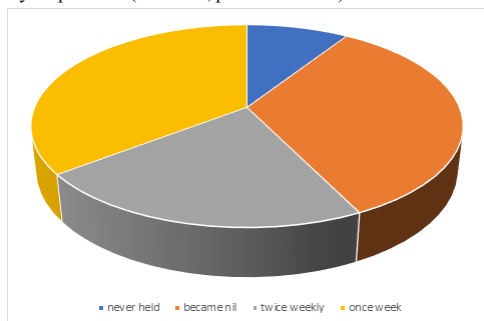


Fig.4

To combat the reduced classes during COVID-19 pandemic, mostly classes and case presentations were being conducted virtually; mostly on the Microsoft Teams, followed by Cisco WebEx, Google meet and ZOOM platform.

Though, only 32 percent PG students were content with these virtual classes; 54 percent were not satisfied and 14 percent were satisfied only up to some extent. ($X^2=16.67$; p value=0.001).

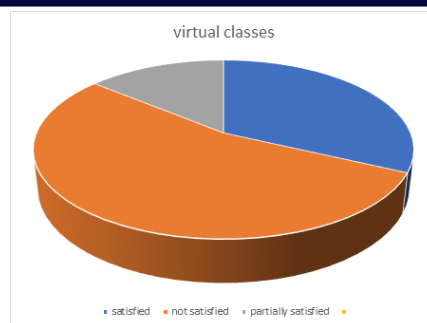


Fig.5

2. Impact on Clinical/surgical Training

As reported by the respondents, 87% PGs reported an issue with no physical examination of the patients, 89% PGs reported issue with not being able to present and learn from clinical cases, 75% of the PGs mentioned that they were not able to present seminars and journal clubs (JC) physically which disrupted the learning process. 67% respondents claimed that they had difficulties in understanding the online mode of education which is being adapted and hence not satisfied. 72% reported that they were not able to complete their log books which led to backlog work and hence an add on factor for stress. 45% reported that interdepartmental meets were cancelled which affected the learning process at a broader level. As the number of cases kept on increasing, 95% PGs reported fear of contacting infection. No contact and learning from the seniors were another issue reported by 87% PG students. Furthermore, 67% students presented a problem of not having group studies and discussions affecting their learning and 5% respondents claimed that they had no problem while adapting to the new normal way of learning amid COVID-19 pandemic.

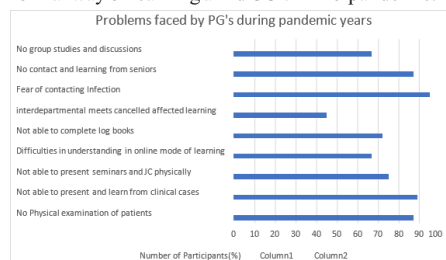


Fig.6

3. Problems faced by PG students regarding Thesis/ Dissertation work

According to the responses received, as third year PGs are also included, (35%) of the respondents reported that they have submitted thesis. (76%) reported difficulty in recruitment of new patients for the research, (78%) reported issue with decrease in number of OPD which affected thesis outcome. (89%) expressed that decrease in number of surgeries affected thesis outcome whereas, (75%) expressed that decrease in follow-up affected the thesis outcome. (35%) reported that their thesis was on elective surgery, so wasn't able to continue the same, however, (24%) respondents mentioned that their thesis was changed from surgical to non- surgical owing to decline in number of cases. Also, (10%) reported no issues with the current scenario.

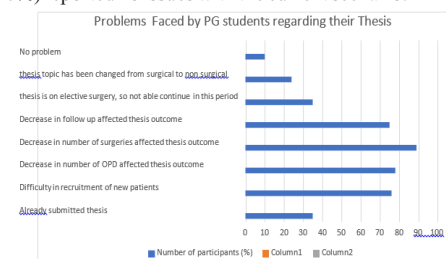


Fig.7

4. Number of PG students contacted COVID-19 (in %age)

As, third year PGs are involved in emergency duties compared to second year and first year PGs, (82%) final year PGs reported that they contacted COVID-19 infection. When analysed further, (32%) and (14%) for second year and first year PG's positive response was seen

respectively. ($X^2=5.24$; p value=0.022)

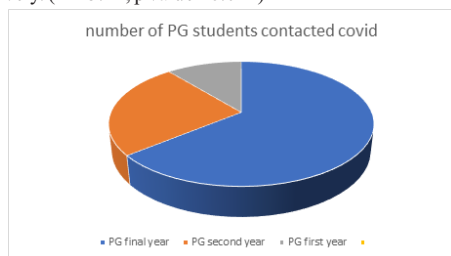


Fig.8

5. Effect on mental wellbeing of PG students

As the things changed drastically, stress was observed among all the students pursuing their studies. The PG respondents quoted factors which induced stress for them. Various stress factors which could be recorded based on their responses included loss of surgical training during PG as reported by (86%), loss of clinical learning during PG (75%), inability to provide professional treatment to patients (45%), not being able to complete PG assignments (69%), delay in completing thesis as reported by (78%) and fear of contacting COVID-19 infection was a fear factor for (84%). Apart from this, loss of confidence in performing duties were expressed by (45%), not being able to cope-up with the new normal (56%), staying away from family and friends (83%), loss of confidence in performing surgical cases (78%) and no stress was felt as reported by (3%) participants.

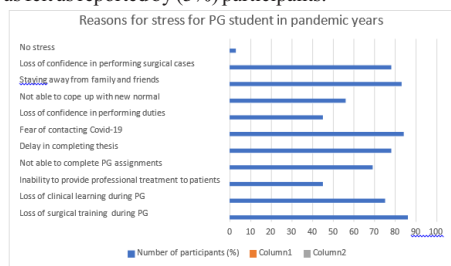


Fig.9

Statistical Analysis

Data was entered into SPSS (Statistical Product and Service Solutions) version 26 (IBM Corp) for statistical analysis. Frequencies/percentages were summarized for all categorical variables and Chi square test, Fisher's exact test or Monte-Carlo simulation were ascertained as appropriate.

We used the Wilcoxon signed-rank test to compare pre-COVID (2019) and post-COVID (2020) data for the same months in terms of the number of classes. For other variables, we employed cross-tabulation and chi-square tests to assess associations. All results are described in percentage. A two-sided P value < 0.05 was considered as significant.

Table.2 (n=124)

Paired t-test	Mean	SD	Mean Rank	Wilcoxon Signed Ranks	p value	Results
Pre-Test Score	9.09	2.77	45.11	2.149	0.032	Significant
Post-Test Score	10.15	3.68	56.34			

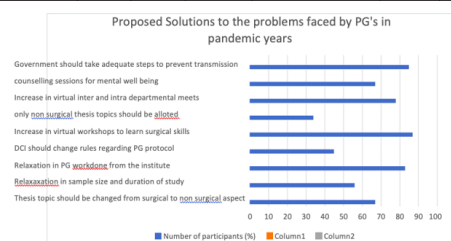


Fig.10

Proposed Solutions To The Problems Faced By Pgs In Pandemic Years

Dealing with the scenario, change in thesis topic from surgical to non-surgical was the solution given by (67%) of respondents, relaxation in sample size and duration of study was suggested by (56%), relaxation in PG work from institution was another solution given by (83%).

Whereas, changes in rules for PG protocol from DCI was suggested by (45%), increase in virtual workshops for learning surgical skills by (87%), allotment of only non-surgical thesis by (34%), increase in virtual inter and intra departmental meets by (78%), counselling sessions for mental well-being by (67%) and adequate steps by government by (85%) were some of the solutions as suggested by the respondents.

Techniques of Learning During Pandemic Years

Due to suspension of offline teaching and clinics during the pandemic times, various techniques were suggested by the respondents to overcome the loss. The techniques included typhos/simulators as suggested by (62%) participants, models (42%), patient's old casts (32%) and virtual videos were suggested by (38%). ($X^2=3.26$; p value=0.0712)

Techniques of learning during pandemic years (%)

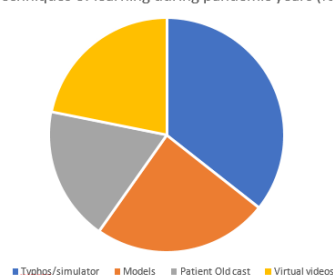


Fig.11

DISCUSSION

There is no doubt covid was one of the most turbulent and challenging periods in world history.^[9] The Coronavirus pandemic was unprecedented and had harmful effects on education, causing disruptions alongside health concerns.^[10] The data reflects that there have been immense challenges in terms of learning procedures and mental stress faced by the students pursuing post-graduation in periodontology during the time of covid.

Excessive stress and anxiety in medical education can hinder learning and be counterproductive, particularly among novice surgeons^[6,7] Post graduate students are already under pressure with directives, strict timelines and procedures. These budding periodontists have enough share of stress due to separation from families, exams and a constructive criticism by their mentors. The additional burden of extreme infection prevention protocols with patients who are also not forthcoming to undergo surgeries can be strenuous. Along with an altered way of teaching which is new to these students and change in working schedule puts a toll on their mental health.

The challenge lies in exploring this complex issue, developing methodologies suitable for the unique conditions of surgical practice without oversimplifying its realities.^[7] This review aims to raise awareness of this critical issue among surgeons and surgical educators. Some measures have also been discussed which can be proposed and implemented which would help in satisfactory completion of the course in such situations. Innovations and virtual environments need to be formed to overcome this difficulty.^[8] Pandemic education might highlight long-term changes in the relationship between technology and society, with digital services being readily adopted as solutions to various problems.^[12] Institutions, will need to assess their resources pedagogical approach to hybrid learning to find the right balance between investing in physical and digital infrastructure^[13]

The training program for faculty members should be organized to address the alternative methods of teaching.^[11] The rapid move by educational institutions to offer courses for distance education raises significant concerns about their quality. The potential for virtual environments to deliver high-quality education has yet to be fully realized.^[14-16] Colleges should prioritize improving research methods training and establishing trainee research collaboratives.^[17]

The student teacher interaction should be easier and more forthcoming with empathy and understanding. The aim is to normalise vulnerability and identify abnormal stress responses and come up with strategies for education, and a tailored approach to overcome these seismic changes^[18-20] Preoperative care protocols need to be laid out seeing the vulnerability of the situation.^[21] It is the need of hour to be more

communicative, less critical and develop a softer approach towards the surgical students in such circumstances.^[22]

Conflict Of Interest

There was no conflict of interest

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