

## Impact of COVID-19 Pandemic Among Dental Students' And Graduates Post-Graduation Specialty Choices; A Multi-Institutional Survey

Research Article

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### Abstract

**Purpose/Objectives:** This study evaluated the impact of COVID-19 pandemic on the change in specialty preferences of dental students and fresh graduates.

**Materials And Methods:** An analytical cross-sectional study was conducted from Aug'20 to Dec'21 using a structured questionnaire, validated by using pilot sample prior to dissemination to 300 graduating dental students, house officers and graduates within 5 years of graduation, from different private and public dental schools in Karachi. The survey included questions regarding interest development towards specialty choices, discovery of new interests, causes of delay in graduation and documentation and deviations in planned specialty choices due to the circumstances of the pandemic. The data was analyzed using SPSS version 20.

**Results:** With an overall response rate of 82.6%, 36.7% of the total respondents perceived an effect of COVID-19 pandemic on specialty choices, although this impact was found to have no significant association with education status but a significance in association with categories of institutions was demonstrated, with 48.1% Private sector respondents thinking choice of specialty would be affected by the pandemic as compared to only 27.9% respondents from Government institutions.

**Conclusion:** Our results reveal the pandemic has affected post-graduation specialty choices among students and graduates with discovered new interest and priorities suggest major deflections in planned career paths by decision making dental year students, house officers and graduates which should be manifested by revising systems of undisrupted curricular, clinical research and academic activities with timely conduction of examinations and applications.

**Keywords:** COVID-19; Specialties; Dental; Clinical Skills; Career Choice.

### Introduction

The declared sixth Public Health of Emergency Services of International concern (SPHEC) of the COVID-19, by World Health Organization, found to be caused by a novel severe acute respiratory syndrome corona virus now known as (SARS-CoV-2),

has led to major socioeconomic chaos worldwide [1, 2]. Unprecedented transformations in almost all walks of life including religious, political, cultural, sports, educational, health related or even activities at state levels have been implicated time to time in concurrence with the pandemic, including ban or restricted social gatherings implemented as part of the preventive measure to limit

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the spread of cases [1, 3].

Educational socializations in Pakistan had been taken into consideration, in accordance with the needs of time manifested, as either announcement of complete or partial closure plans in the National Security Committee (NSC) meeting for schools, colleges, universities and other centers, leading to educational revolution by virtual teaching and learning systems as an adaptation to face to face teaching during the pandemic period, with the commencement of very first execution plan of lockdown and institutional closure orders as per WHO guidelines, followed by changing orders of reopening with SOPs as per HEC permission [4].

With supporting evidence of high transmission risk of the COVID-19 infection for Dental Health Care Professionals (DHCPs) including dental students, hygienists, nurses etc. and the recommendation of Centre of Disease Control and Prevention (CDC) and American Dental Association (ADA) for restricting dental activities to emergency cases in April 2020, the dental education system in Pakistan, by no means, remain unaffected by the closure of the educational institutions [4-8]. Online teaching methods through Learning Management Systems (LMS) or other software have been adopted by the different dental colleges in this stay at home era [8]. The study for basic dental subjects also appears to be largely affected by the online system although laboratory procedures, practical and preclinical exercises have also been affected to some extent [8, 9].

While still major challenges in the COVID-19 era are to be faced by students, house officers and fresh graduates who are yet to enter the practical life with aims of continuing higher education via application or residency programs or choosing any specialty for specialization [3]. Third and final year dental students, House officers and graduates, still awaiting their career pursuance, have become deprived of external rotation initially with subsequent re-opening of OPDs and continuation of rotations of students divided into shifts as per Government orders with strict SOPs in the clinical departments [10]. The pandemic has reported to affect the choice of specialty in about one-fifth of the surveyed medical students in the US as part of a nation-wide survey [3]. Similarly, with lack of clinical expertise, planned career choices for dental students in the phase of planning for their post-graduation, has also been shown to be greatly impacted by the on-going pandemic in a study carried out by the faculty and DMD candidates at Harvard University Of Dental Medicine Boston, Massachusetts [11]. To add to the dilemma, an expected lacking in fulfillment of clinical requirements by third year dental students and postponement in attempting the licensing exam for the fourth year students by virtue of the lockdown have also been reported [12]. Although, majorly reported to be a negative view, literature also reveals, a positive view of Nepali undergraduate dental students about pursuance of post-graduation courses in future in the on-going COVID-19 era, with Oral and Maxillofacial surgery being the most favorite specialty choice, followed by Operative dentistry, Pediatric Dentistry, Prosthodontics, Periodontics, Community Dentistry, Periodontics and Oral Pathology [13].

Studies evaluating career aims from dental students conducted in Pakistan largely demonstrate, intentions of post-graduation in clinical subjects via FCPS with only minority being interested in basic sciences [14]. These locally conducted studies report Oral and Maxillofacial surgery followed by Orthodontics being cho-

sen as the most wanted specialty choices with personal interests being the most common influencing factor [15]. Faisal et al. reported positive trend for respondents receiving encouragement from institution to pursue specialization to respond positively for their desire for post-graduation with Oral Surgery followed by Orthodontics had been found to be the most preferred choices and field talent along with desire to study further being the most chosen reasons for the preferred options [16]. Surprisingly Oral microbiology or dental radiology as a specialty choice has almost remained the least preferable domains to pursue post-graduation throughout literature.

The consequences of the pandemic of COVID-19 undoubtedly leads to provision of limited exposure, exploration time and experience status in the core rotations to dental students, house officers in their relevant fields of interest along with delay in the graduation time and application processing for residency programs for all those awaiting to get inducted, therefore the need to evaluate the impact of the pandemic on future career choices remains meaningful and lacking to date and to fulfill this research gap, the aim of the study is to evaluate the impact of COVID-19 pandemic on the change in planned specialty preferences of dental students and fresh graduates.

## Materials And Methods

### Study Design, Study setting and Sample

This analytical cross-sectional study was conducted in multiple Public and Private Dental Colleges of Karachi, Pakistan. Our Target population constitutes the enrolled students of either third or final year and House Officers from multiple private and Public Dental Colleges in Karachi in the year 2020 and Dental Graduates from 2015 onwards. All participants were asked for verbal consent prior to questionnaire distribution as well as, written consent in the form of choosing either "yes" or "no" to an option relating to permission to proceed in the attached informed consent form with the survey, was also taken. Dental Graduates working as General Dental Practitioners, Demonstrators/Lecturers, interns, or senior House Officers or those who are still awaiting opportunities to get inducted in any post-graduation programs were included in the study whereas undergraduate dental students enrolled either in first or second year, Post Graduate Students, Students who declined to consent or Dental Graduates with greater than five years passed after graduation were excluded from the study. Sample was drawn based on convenience. The sample size was calculated using an open-epi online calculator version 3.0 with confidence interval of 95% and 80% power of test, a sample size of three hundred participants has been calculated [3].

### Study Tool and Data Collection Procedure

The study tool consisted of a structured, pretested, and validated questionnaire comprising of fifty three questions. This self-administered questionnaire was devised with modifications of questions from a similar study conducted in USA to evaluate the impact of the pandemic on medical students regarding their career perceptions [3]. For evaluation of internal consistency of the questionnaire, the questionnaire was distributed as hard copies to be filled by almost fifty participants with attached consent form to be signed by each respondent, prior to distribution of survey forms

for the purpose of study, and the value of Cronbach Alpha was found to be 0.686, indicating an acceptable level of internal consistency. Subsequently, data was collected throughout a period of four months from September’ 20 to December’ 20, from a sample of two hundred and forty eight participants with informed consent form by both distribution of survey forms manually in the form of hard copies to subjects on the basis of convenience and through the Google survey form ([https://docs.google.com/forms/d/1fH3qAkuocjWbXG9OjUP5E2ad0DWF1-UyC\\_HS0wH4wfo/viewform?ts=5f59ef77&edit\\_requested=true](https://docs.google.com/forms/d/1fH3qAkuocjWbXG9OjUP5E2ad0DWF1-UyC_HS0wH4wfo/viewform?ts=5f59ef77&edit_requested=true)). The questionnaire consisted of five sections. The first section had socio-demographic information to be filled, the rest of the questions were all designed to have either “yes”, “no” and “maybe” as the options for the possible responses. The second section pertained to simple questions regarding rotation status, concern about time-lapse and graduation requirements; followed by a third section with questions on intended post-graduation program and specialty of choice. The next two sections had questions regarding effect of COVID-19 on specialty choices and discovery of new interests and anticipated reasons for delay in graduation and documentation time.

**Statistical Analysis**

Data was analyzed using SPSS version 20. The descriptive statistics included all independent variables such as age, gender, education status and category of institution and were reported as mean and standard deviations for continuous variables such as age, whereas frequencies and percentages had been calculated for all categorical variables. For the purpose of evaluation of associations between variables through Chi-square Statistics, the categories “Third year” and “Final Year” for the variable Education Status had been computed as a single category “student”, similarly “House Officers” and “Graduated and done with House Job” had been computed as “Graduates”. Also, the response options “no” and “maybe”, together for all the questions had been computed as a single category. Cross-tabs had been calculated for associations between education status and the questions regarding concern about time-lapse and graduation requirements; post-graduation trends and specialty choices, and intentions; effect of COVID-19 on specialty choices and discovery of new interests. Cross-tabs for category of institution and effect of COVID-19 on specialty choices and discovery of new interests had also been calculated. A p value of ≤0.05 was considered significant.

**Results and Discussions**

**Descriptive Statistics**

A total of three hundred questionnaires were distributed and a total of two hundred and forty-eight responses were obtained and analyzed making an overall response rate of 82.6%. Basic demographics of the study are given in Table 1.

**Overall response of Importance**

It can be discerned from the results shown in Table 2, that the ongoing pandemic would affect choice of specialty making a frequency of 36.7% of the included data.

**Concern about Time Lapse and Graduation Requirements among Students and Graduates**

The X2 statistics for association between education status and questions regarding concern about time lapse and graduation requirements (Table 3.) reveal a significant relationship between core rotation status and education status with most respondents in both students (97.5%) and graduates (80.8%) haven’t been able to complete their core rotations timely.

**Post-graduation Program and Specialty Choices among Students and Graduates**

It has been revealed that majority of students 70.9% and graduates 50.9% chose “yes” for FCPS or MDS as post-graduation programs of choice, followed by National Boards/ORE/ADC/DHA/HAAD/MOH, in which the option “yes” was chosen by 33.10% graduates and 17.7% of students and the least chosen specialty of choice has been found to be MSc/MCPS/MPhil/MPH indicated by only 12.7% students and 17.2% of graduates choosing “yes” for this question. Fig 1 discloses that most popular specialty choice among students is Operative Dentistry.

**Effect of COVID-19 on Specialty Choices and Discovery of New Interests among Students and Graduates**

Table 4 reveals no significant association between education sta-

**TABLE 1: Descriptive Statistics.**

Characteristics	(Mean ± S.D)		
Age	23.44 ± 1.921		
	categories	n (%)	
Gender	Males	50	20.20%
	Females	198	79.80%
Students	third year	44	17.70%
	final year	35	14%
Graduates	House Officers	125	50%
	Graduated and done with House Job	44	17.70%
Institution Category	Government sector	140	56.50%
	Private sector	108	43.50%

**N = Frequency; Abbreviations S.D=Standard Deviations**

**Table 2. Overall Responses of Importance.**

Questions	n (%)	
Do you think COVID-19 pandemic will affect your choice of specialty?		
yes	91	36.70%
no	157	63.30%
Have you discovered new interests or priorities due to pandemic?		
yes	103	41.50%
no	145	58.50%
Do you intend to opt for post-graduation?		
yes	181	73.00%
no	67	27.00%
Do you intend to practice General Dentistry only after graduation?		
yes	47	19%
no	201	81%

Abbreviations N = Frequency; options “no” and “maybe” has been merged into single category “no” for all characteristics. Level of significance: p-Value <0.05, \* represents significant p values.

**Table 3. Concern about Time Lapse and Graduation Requirements among Students and Graduates.**

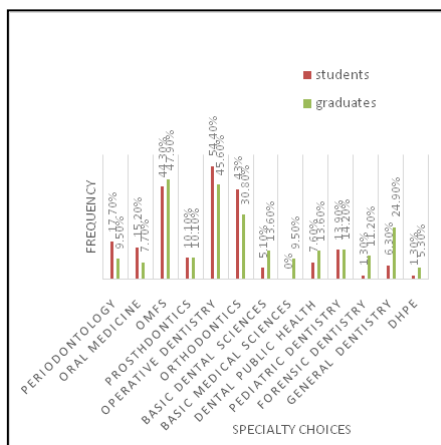
Questions	n (%)		p-value
	Students	Graduates	
Have you completed all your core rotations timely? (For students and House Officers only)			0.001*
yes	2 (2.5%)	24 (19.2%)	
no	77 (97.5%)	101 (80.8%)	
Are you concerned about fulfilling your graduation and documentation requirements in time?			0.02*
yes	73 (92.4%)	136 (81.0%)	
no	6 (7.6%)	32 (19.0%)	
Do you think decreasing patient quota allotted would help cope up with suspected delay in graduation time due to COVID-19 pandemic?			0.046*
yes	12 (15.2%)	45 (26.6%)	
no	67 (84.8%)	124 (73.4%)	
Do you think rotating students as per their clinical interests only would help cope up with suspected delay in graduation time due to COVID-19 pandemic?			0.026*
yes	4 (5.1%)	25 (14.8%)	
no	75 (94.9%)	144 (85.2%)	
Do you think delaying exams to teach proper clinical skills would help cope up with suspected delay in graduation time due to COVID-19 pandemic?			0.05*
yes	2 (2.5%)	16 (9.5%)	
no	77 (97.5%)	153 (90.5%)	
Would taking an extra year At dental school, provide you a chance to meet your graduation requirements which would not have been possible otherwise?			0.045*
yes	1 (1.3%)	17 (10.1%)	
no	9 (11.4%)	18 (10.7%)	
I don't think taking an extra year would be of any benefit	69 (87.3%)	134 (79.3%)	

Abbreviations N = Frequency; options “no” and “maybe” has been merged into single category “no” for all characteristics. Level of significance: p-Value <0.05, \* represents significant p values.

tus and impact on specialty choices due to the COVID-19 pandemic with majority of both students (69.6%, n=55) and (60.4%, n=102) showing disapproval on this question. Also, a significance in trends of associations between anticipated reasons for delay in graduation and documentation time and education status for “lacking in research” in which majority think it is the reason causing delay in graduation and documentation time.

Figure 2 shows the most common activity/reason of engagement during the lockdown period of the pandemic among students and graduates. It has been found to be online/virtual classes as shown by option “yes” selected by 64.6% of students for this question, followed by family responsibilities (51.90%), while for graduates the most common activity/reason of engagement during the lockdown period of the pandemic has been shown to be family responsibilities as demonstrated by selected option “yes” by 58% of graduates fol-

**Figure 1: Post-Graduation Specialty of choice among students and graduates. Percentage comparison for respondents choosing “yes” when asked about Multiple Post-Graduation specialties of choice among Students and Graduates.**



**Table 4. Effect of Covid-19 on Specialty Choices and Discovery of New Interests among Students and Graduates.**

Questions	n (%)		p-value
	Students	Graduates	
Do you think COVID-19 pandemic will affect your choice of specialty?			
yes	24 (30.4%)	67 (39.6%)	0.158
no	55 (69.6%)	102 (60.4%)	
Have you discovered new interests or priorities due to pandemic?			
yes	28 (35.4%)	75 (44.4%)	0.183
no	51 (64.6%)	94 (55.6%)	
Have you completed any electives or sub-internships in your discovered new interests?			
yes	5 (6.3%)	31 (18.3%)	0.012*
no	74 (93.7%)	138 (81.7%)	
Have you attended any webinars, seminars or workshops on infection control during the pandemic?			
yes	8 (10.1%)	43 (25.4%)	0.005*
no	71 (89.9%)	126 (74.6%)	
Have you attended any webinars, seminars or workshops on infectious diseases during the pandemic?			
yes	7 (8.9%)	38 (22.5%)	0.009
no	72 (91.1%)	131 (77.5%)	
Have you attended any webinars, seminars or workshops on epidemiology during the pandemic?			
yes	1 (1.3%)	30 (17.8%)	<0.001*
no	78 (98.7%)	139 (82.2%)	
Are/were you engaged in Teledentistry work during this time away from hospital?			
yes	5 (6.3%)	24 (14.2%)	0.072
no	74 (93.7%)	145 (85.8%)	
Are/were you engaged in online/virtual classes during this time away from hospital?			
yes	51 (64.6%)	28 (16.6%)	<0.001*
no	28 (35.4%)	141 (83.4%)	
Are/were you engaged in Family responsibilities during this time away from hospital?			
yes	41 (51.9%)	98 (58.0%)	0.368
no	38 (48.1%)	71 (42.0%)	
Are/were you engaged in exercise during this time away from hospital?			
yes	25 (31.6%)	66 (39.1%)	0.259
no	54 (68.4%)	103 (60.9%)	
Are/were you engaged in self-care/relaxation during this time away from hospital?			
yes	36 (45.6%)	88 (52.1%)	0.34
no	43 (54.4%)	81 (47.9%)	

Abbreviations N = Frequency; options “no” and “maybe” has been merged into single category “no” for all characteristics. Level of significance: p-Value <0.05, \* represents significant p values.

lowed by self-care/relaxation by 52.1% of the graduates.

Figure 3 demonstrates most common reason for delay in graduation and documentation time for students has been found to be “examinations not being conducted on time” for 65.80%, followed by “being away from rotations” as demonstrated by 49.40% which is further followed by “financial constraints” by 22.80% with lacking in research being the least preferred reason 13.90% whereas similar trend of “examinations not being conducted on time” followed by “being away from rotations” has also been observed for graduates with respective frequencies of 57.40% and 54.4%.

### Effect of COVID-19 on Specialty Choices and Discovery of New Interests among Respondents from Different Categories of Institutions

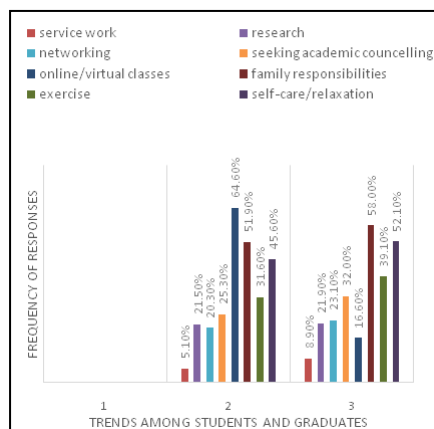
When evaluating x2 associations for effect of COVID-19 on specialty choices and discovery of new interests and categories of institutions, statistically significant result has been obtained for the association between effect of pandemic on specialty choice and category of institution with only 27.9% respondents from Government institutions (n=39) and 48.1% Private sector respondents (n=52) thinking choice of specialty would be affected by the pandemic, p-value being 0.001. (Table 5)

This cross-sectional study provides a unique insight to the den-

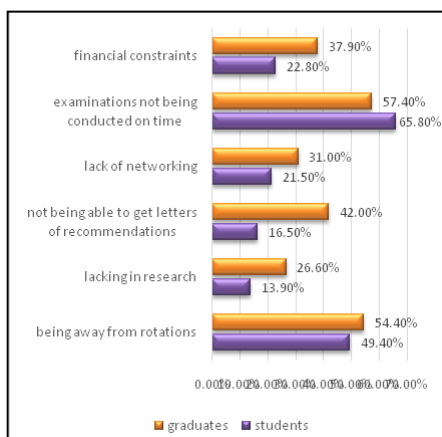
tal students and graduates’ problems regarding their future post-graduation planning, their motivation status and new interests along with their anticipated reasons and possible suggestions from their own perspectives, all in this COVID-19 era where great focus of research has been devoted to addressing different aspects of psychological impact on dental education and practice along with economic outcomes [12, 17-19]. To our knowledge, this survey aims to fulfill the lacking in perceptions from a region of Asian population of dental students and graduates while a few USA based studies with somewhat similar aims have been published [11, 20].

Our study revealed 63.3% of the respondents believe a change in choice of specialty would result from the pandemic which is quite high as compared to the study surveying perceptions of dental students and hygienists surveyed about their perceived change in future careers where the yielded results were only 10% of the surveyed population as part of a survey conducted at Virginia Commonwealth University School of Dentistry [20]. Similarly, Kasey et. al reported an overall 41% of surveyed dental students believed the pandemic had affected their career path [11]. Similarly, medical students surveyed as part of a nationwide survey revealed only 20.2% respondents thought that the pandemic would affect their choice [3]. The difference in results can be attributed to regional differences. Furthermore, this trend of change in specialty choice in the COVID-19 era did not come out to be significantly associated in our survey with education status, although a signifi-

**Figure 2. Most common activity/reason of engagement during the lockdown period of the pandemic among students and graduates. Percentage comparison for respondents choosing “yes” when asked about multiple activities/reasons of engagement during lockdown period among Students and Graduates.**



**Figure 3. Most common cause of delay in graduation and documentation among students and graduates. Percentage comparison for respondents choosing “yes” when asked about multiple activities/reasons of engagement during lockdown period among Students and Graduates.**



**Table 5. Effect of Covid-19 on Specialty Choices and Discovery of New Interests among Respondents From Different Categories Of Institutions.**

Questions	n (%)		p-value
	Government sector	Private sector	
Do you think COVID-19 pandemic will affect your choice of specialty?			.001*
yes	39 (27.9%)	52 (48.1%)	
no	101 (72.1%)	56 (51.9%)	
Have you discovered new interests or priorities due to pandemic?			0.034*
yes	50 (35.7%)	53 (49.1%)	
no	90 (64.3%)	55 (50.9%)	
Have you completed any electives or sub-internships in your discovered new interests?			<0.001*
yes	10 (7.1%)	26 (24.1%)	
no	130 (92.9%)	82 (75.9%)	

Level of significance: p-Value <0.05, \* represents significant p values. Options “no” and “maybe” has been merged into single category “no” for all characteristics.

cant association between categories of institution and change in choice of specialty has been obtained with greater number of respondents from Private institutions thinking their choices would be affected as compared to only few respondents from Government institutions. This difference in perceptions about whether a change in choice of specialty would occur or not between different categories of institutions can be explained with a significantly higher frequency obtained in discovery of new interests and priorities from respondents from private sector institutions where almost half respondents have discovered new interest or priorities as compared to only few respondents from government institutions.

The significantly higher concerns of both students and graduates in our study regarding timely completion of graduation and documentation requirements is consistent with the finding that 42.6% of Higher Education students were found almost all time worried about their future professional career as part of a global survey conducted to evaluate the impact of COVID-19 Pandemic on life of Higher Education Student [21]. Also an exploratory study, surveying impact of the critical era of pandemic on dental healthcare utilization and economics, reported an expected lacking in fulfillment of clinical requirements by third year dental students and postponement in attempting the licensing exam for the final year students by virtue of the lockdown in the US [12]. This reasonably explains the anticipated delay in graduation and documentation time for students and graduates for their future careers.

Our study highlights “examinations not being conducted on time” as the most anticipated reason for the expected delay in graduation and documentation time due to the pandemic, followed by “being away from rotations” and “not being able to get letters of recommendation” which somehow relates with most commonly concerned reasons of about ‘letters of recommendation’ and ‘being away rotations’ followed by “taking board exams” in a nationwide survey evaluating impact of the pandemic on medical students [3]. The possible explanation for the most anticipated reason being “examination not being conducted on time” could be in a developing country in which the study has been conducted, lack of preparedness by educational institutions at such a time of crisis for online systems or evaluation and teaching modes possibly explain the highlighted the reason.

Financial concerns and reasons for delay in either graduation and documentation hasn’t been a popular anticipated reason in our study which is found to be greatly inconsistent with literature where a lot of studies in the COVID-19 era has indicated undergraduate students are concerned greatly about their future careers and education [21]. Maschadoet. al hypothesized an expected decrease in the number of students enrolled in dental college by dropout of students as part of financial crises by the by virtue of the COVID-19 pandemic where many students depend on job in a study conducted in Brazil [22].

Also consistent with the finding that 41.5% respondents have discovered new interest or priorities during the pandemic in our survey, several respondents were also found to develop alternative career plans during the ongoing pandemic as part of the survey conducted in a region of USA which targeted dental students and hygienists [20]. Also depicting literature, our study indicated a majority of both students and graduates having an intention to opt for post-graduation while also the popularity of practicing general dentistry only after graduation in private set-ups has also been found to be very low, which finds consistency in several studies conducted both in the pre-pandemic and during the pandemic era [16, 20, 23].

Regardless of the pandemic, post-graduation program of choice chosen by the respondents of this survey highlights FCPS or MDS as the most preferred programs of choice which undoubtedly is consistent with many previous regional studies owing to the mindset of the majority of students and graduates who intend to stay in their country and achieve their clinical specialization goals with the best of the available options [14, 15]. Furthermore, our study demonstrates Operative dentistry for students and Oral and Maxillofacial Surgery for graduates as the most preferred specialty choices, followed alternately as OMFS for students and Operative Dentistry for graduates as the second most preferred choices, while Orthodontics has been found as the third preferred choice for both, this somehow contrasts literature to some extent where OMFS followed by Orthodontics remain the most preferred as indicated by several regional studies whereas the popularity of Orthodontics has been demonstrated by several international studies [15, 16, 18, 24-26].

When asked about activities engagement during the time of being

away from hospital, our survey revealed “online/virtual classes” followed by “family responsibilities” for students whereas “family responsibilities” followed by “self-care/relaxation” for graduates, has been found to be consistent with “research’ and ‘virtual classes through medical school’ as being the activities medical students were engaged in, when evaluating impact of pandemic on medical students in USA [3]. The unpopular activity “research” with a low frequency in our study, reveals the lack of encouragement and interests of students and graduates in the region with even post-graduation program applications also fail to put much emphasis on such an important aspect of scientific growth.

Strengths of the research include an adequate sample size to address the aim with a fair response rate. Along with addressing the main aim, this survey also tries to find out about discovery of new interests also with some questions trying to rule out any anticipated reasons and suggestions pertaining to time lapse and delay in graduation and documentation, particular to the settings of dentistry holding an appropriate importance regionally and can be used in further research. With a very concise international literature being available with this particular aim, our study paves way to many researches with modifications both on a regional and international level.

Limitations of the study include a lack of comparison between pre and post pandemic specialty choices with a simpler study design. Also, a lacking in comparison between pre and post pandemic factors affecting specialty choices can be discerned.

## Conclusion

Since our findings indicate a major impact of the pandemic on post-graduation specialty choices along with deviations in career paths being suggested by alternately discovered new interests and priorities by some of the study participants signals major challenges to be faced by educational institutions in this COVID-19 era to fulfill their provisional requirements for their students, facilitating improvements in their disrupted clinical rotations, examinations and post-graduation applications and requisitions and hence their preparedness for continuation of all the routine proceedings. Furthermore, more precise, and improvised work related to addressing future concerns for careers in the discipline of dentistry related to residency programs, especially in the COVID-19 era is anticipated.

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