

## Research Article

# Perception of final year dental students about the specialty of Oral and Maxillofacial Surgery: A cross-sectional survey

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### Abstract

**Objective:** To determine the understanding of final year undergraduate Bachelors in Dental Surgery (BDS) students about the scope of Oral and Maxillofacial surgery as their future career choice and reasons for choosing or not choosing the specialty.

**Methods:** A cross sectional survey was done at Fatima Jinnah Dental College and Hospital Trust from 1<sup>st</sup> June 2018 till 30<sup>th</sup> June 2018. A pretested, close ended questionnaire was designed to collect responses of 50 final year dental students. Data was entered and analyzed by SPSS Version 20. Frequency percentages were analyzed.

**Results:** Among 50 dental students 48 (96%) preferred to refer patients with facial trauma to Oral and Maxillofacial Surgery (OMS), 44 (88%) preferred to refer patients with jaw deformities to Oral and Maxillofacial Surgery (OMS), 32 (64%) to TMJ Disorders, lip cancer 23 (46%), salivary gland disorders 17 (34%), cleft lip and palate 16 (32%), impacted teeth 4 (8%) to Oral and Maxillofacial Surgery (OMS). Out of 50 students, 33 (66%) students adopted Oral and Maxillofacial Surgery (OMS) as their future career. Most common 16 (8%) reason for choosing Oral and Maxillofacial Surgery (OMS) was a challenging and interesting field. Most common 10 (48.8%) reason for leaving Oral and Maxillofacial Surgery (OMS) was that most students liked other specialties.

**Conclusion:** The knowledge of students regarding scope of Oral and Maxillofacial Surgery is sufficient and most students wanted to adopt Oral and Maxillofacial Surgery (OMS) as their future career. We can now predict that the future of Oral and Maxillofacial Surgery (OMS) is very bright. Therefore, there should be more opportunities for postgraduate training and jobs in Oral and Maxillofacial Surgery (OMS) for students.

**Keywords:** Dental undergraduates; Career pathway; Awareness of Oral and Maxillofacial surgery

### Introduction

The specialty of Oral and Maxillofacial Surgery (OMS) is defined by the American Association of Oral and Maxillofacial Surgeons as the specialty of dentistry that includes the diagnosis, surgical and adjunctive treatment of diseases, injuries, and defects involving both the functional and the esthetic aspects of the hard and soft tissues of the oral and maxillofacial region [1].

Oral and Maxillofacial Surgery (OMS) gradually developed by pioneering surgeons, they started it with simple exodontia and

wartime facial trauma management. The persistent courageous efforts of different surgeons resulted in creation of modern complex hospital based specialty of Oral and Maxillofacial Surgery (OMS). Dental students start their basic training by learning the basic restorative techniques and they get the exposure of Oral and Maxillofacial Surgery (OMS) later in their training process, that is why most of the dental students find Oral and Maxillofacial Surgery (OMS) as more complex as compared to simple restorative dentistry procedures [2]. Despite this prominent role in the field of dentistry, a lack of complete understanding still remains among our dental students, medical students, medical professionals and general public about the exact scope and expertise of the oral and

maxillofacial surgeons [3-16].

A comparative study conducted in Pakistan confirmed that dental students, medical students and general medical practitioners have very low knowledge and scope of maxillofacial surgery; however, qualified dental practitioners has better understanding on the scope of Oral and Maxillofacial Surgery (OMS) [15].

There is still confusion among the dental and medical health professionals as to which specialty certain surgical problems should be referred [3,4,6-9]. This is especially true when plastics, Otolaryngology, and Oral and Maxillofacial Surgery (OMS) are talked about as in certain procedures the confusion persists for example Sinus surgery, Cleft Lip and Palate (CLP) surgery, facial deformity management, facial cosmetic and reconstructive procedures, and pathological conditions. Therefore, it is proven that medical students and practitioners do not have complete understanding of the scope of Oral and Maxillofacial Surgery (OMS).

A comparative study on dental students, dentists, medical students and medical practitioners confirmed that qualified dentists and dental students has better understanding on the scope of Oral and Maxillofacial Surgery (OMS). Most of medical students and practitioners had referred patients with Cleft lip and facial aesthetic problems to plastic surgeons. Medical students also preferred to refer patients with benign tumors and biopsy to ENT surgeons [3]. Studies on dental students confirmed that most students wanted to adopt Oral and Maxillofacial Surgery (OMS) as their future career; whereas, other studies find that orthodontics was the leading choice for dental students [17-19].

There have been several studies that have focused the medical students and practitioner's perception about the scope of Oral and Maxillofacial Surgery (OMS) [10,11,13], but only few studies were conducted on the understanding of undergraduate dental students about their awareness of the specialty of Oral and Maxillofacial Surgery (OMS).

Iqbal, et al. have conducted this study among the undergraduate dental students of final year in which patient referrals were analyzed along with their reasons of choosing or not choosing the specialty of Oral and Maxillofacial Surgery (OMS) was enquired. This study may help us in better understanding and in redefining

our educational goals during undergraduate education in an effort to get better patient referrals for patient care. The early training of dental students should incorporate the knowledge and skills of Oral and Maxillofacial Surgery (OMS) and hospital dentistry. If we want that general public, medical professionals and dental students recognize role of Oral and Maxillofacial Surgery (OMS) in surgical care, the curriculum of dentistry should include the recent advancement in general health care.

## Methodology

After attaining approval from ethical committee, a closed ended multiple-choice questionnaire was designed for this cross-sectional survey (Annexure1). A convenient sampling was chosen and the questionnaire was distributed among final year undergraduate BDS students. Out of total 80 students, 50 participated in this study with response rate of 62.5%, although students were individually contacted using a university-based electronic mail system, explaining the purpose of the present study and requesting participation. Only those students were included who had given written consent for participation. Repeated emails were sent to ensure the maximal student's participation in this survey. No participant could retake or duplicate the survey once submitted. After completion of the data collection, data was entered and statistically analyzed using SPSS version 20. Frequency and percentages of student's responses for each question were calculated. Chi-Square Test was applied to calculate the difference among Male and Female students regarding the choice of choosing Oral and Maxillofacial Surgery (OMS) as specialty.

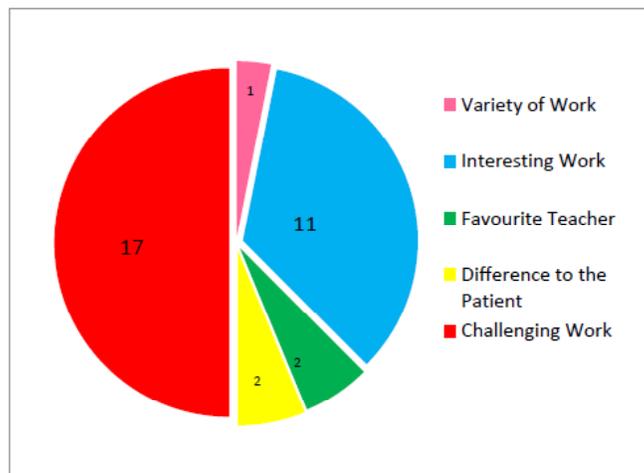
## Results

50 undergraduate students of final year Bachelors in Dental Surgery (BDS) professionals participated in this cross-sectional survey. Out of 50 students 11 students were Males and 22 were Females. All filled proformas were reviewed by the researchers to collect and enter the data and for each question, frequencies and percentages were calculated in the statistical software for each question responses respectively. In question Number 1 which enquired about those problems that have the overlapping specialty concerns was mentioned and their referral responses were observed (Table 1).

S. No	Diseases/ Deformities and Injuries	Students' Preferences of Patient Referrals											
		Plastic Surgeon		General Surgeon		Neurosurgeon		Oral and Maxillofacial Surgeon		ENT/ Otolaryngologist		GP Dentist	
1.	Fracture of The Jaws	1	2%	Nil	Nil	Nil	Nil	48	96%	Nil	Nil	1	2%
2.	Jaw Deformity Correction	2	4%	2	4%	Nil	Nil	44	88%	Nil	Nil	2	4%
3.	Cleft Lip and Palate	22	44%	9	18%	1	2%	16	32%	1	2%	1	2%
4.	Salivary Gland Disease	2	4%	11	22%	1	2%	17	34%	12	24%	5	10%
5.	Lip Cancer	7	14%	8	16%	Nil	Nil	23	46%	2	4%	10	20%
6.	Temporomandibular Disorders	1	2%	1	2%	2	4%	32	64%	1	2%	13	26%
7.	Oral Cancer	1	2%	6	12%	Nil	Nil	29	58%	2	4%	12	24%
8.	Impacted Tooth	Nil	Nil	Nil	Nil	Nil	Nil	4	8%	Nil	Nil	46	92%

**Table 1:** Showing frequency percentages of patient referrals that are chosen by a total of 50 final year Bachelors of Dental Surgery BDS students for a particular problem enlisted.

Question Number 2 was about asking the students, whether they wish to choose Oral and maxillofacial surgery as a future career pathway. Out of 50 Questionnaire responses, 33 (66%) undergraduate students were keen to choose the specialty whereas 17 (34%) ticked the Negative option. out of 11 male students 9 were interest to adopt Oral and Maxillofacial Surgery (OMS) as specialty in future and among 22 female students 12 students opted for the specialty. The difference between males and female was calculated using Chi-Square Test as shown in Bar Graph but the statistical difference did not come out significant. Students choosing the specialty were asked about reason for their interest in question Number 3 and were given options such as shown in the Figure 1.



**Figure 1:** Showing frequencies of various reasons as chosen by 33 students for their interest in Oral and Maxillofacial Surgery (OMS).

Those students who were not interested to choose Oral and Maxillofacial Surgery (OMS) as their career were asked about what is the main reason for not choosing Oral and Maxillofacial Surgery (OMS) specialty in Question Number 4 (Table 2). These students were further asked to mention if any other specialty they would like to choose (Table 3).

S. No.	Reasons for Rejection	Frequency	Percentage
1.	I Have Different Aptitude	2	11.8%
2.	Work Life Imbalance	1	5.9%
3.	I Like Other Specialty	10	58.8%
4.	It Has Low Potential Income	1	5.9%
5.	Long Duration of Training	3	17.6%
<b>Grand Total</b>		<b>17</b>	<b>100%</b>

**Table 2:** Showing frequency percentages of undergraduate Bachelors in Dental Surgery (BDS) final year students opting for reasons of not choosing Oral and Maxillofacial surgery as their career pathway.

S. No	Speciality	Frequency	Percentages
1.	Orthodontics	05	29.4%
2.	Operative	06	25.3%
3.	Endodontics	00	00%
4.	Prosthodontics	05	29.4%
5.	Paedodontics	00	--
6.	Periodontics	01	5.9%
7.	Basic Dental Sciences	00	00%
8.	General Dental Practitioner	00	00%
<b>Grand Total</b>		<b>17</b>	<b>100</b>

**Table 3:** Showing frequency percentages of undergraduate Bachelors in Dental Surgery (BDS) students who did not choose Oral and Maxillofacial Surgery (OMS) as their career pathway and opted for other specialties as mentioned.

## Discussion

In this study the main objective of the survey was to find out the perceptions and awareness of the final year undergraduate Bachelors in Dental Surgery (BDS) students regarding the specialty of Oral and Maxillofacial Surgery (OMS). It was determined by this survey that most of the final year students wanted to refer patients of facial trauma, oral cancer, Temporomandibular Disorders (TMD) and patients with jaw deformities to the Oral and Maxillofacial Surgery (OMS); whereas, the patients with CLP were commonly referred to Plastic surgeons. A study conducted on medical, dental practitioners and general public have proven that there was a lack of knowledge about the range of services provided by Oral and Maxillofacial Surgery (OMS) among medical and dental practitioners. It was confirmed by previous studies that there was confusion about the role Oral and Maxillofacial Surgery (OMS), plastic surgery and ENT in the management of various orofacial disorders [7,8,15]. However, some studies have confirmed that dental practitioners and dental students have better knowledge about scope of Oral and Maxillofacial Surgery (OMS) as compared to medical students and medical practitioners [13,15]. It was confirmed that senior dental students have better awareness about the scope of Oral and Maxillofacial Surgery (OMS) as compared to junior dental students, as students get more clinical exposure their knowledge about Oral and Maxillofacial Surgery (OMS) increases [1]. Dental students usually start their basic training by learning basics of restorative dentistry so the junior dental students have very limited exposure of Oral and Maxillofacial Surgery (OMS) [6].

A study conducted on medical and dental graduates and students found that most dental students wanted to refer patients with facial trauma, TMJ problems, jaw deformities, wisdom teeth surgery and placement of dental implants to Oral and Maxillofacial Surgery (OMS). However, most of the dental students preferred plastic surgeons for cosmetic procedures like Rhinoplasty and facial aesthetic procedures. Surprisingly, most dental students chose ENT surgeons for management of oral pathological lesions and neck masses [2].

Our results are in agreement with other previous studies conducted on dental undergraduates as well as on dentists and medical practitioners [3,15]; however, the third molar problem was most commonly referred to the dentist in our study is in confliction to other previous studies in which third molars were commonly referred to Oral and Maxillofacial Surgery (OMS) [3,6]. A cross sectional survey conducted on general public, dental and medical students, doctors and dentists determined that most of qualified medical doctors and dentists understand the role of Oral and Maxillofacial Surgeons as compared to dental and medical under-

graduates. It was also confirmed by this study that there was some improvement in awareness of general public regarding Oral and Maxillofacial Surgery (OMS) [18].

In our study we have determined that most of the undergraduate dental students wanted to pursue Oral and Maxillofacial Surgery (OMS) specialty as their future endeavors. Our results are in agreement to some studies that have the similar opinion [17-20]; whereas, in some other studies, most students wanted to adopt Orthodontics and general dentistry as their future specialty [21,22]. The main reason for this was that the students find Oral and Maxillofacial Surgery (OMS) as the most challenging dental specialty. A study conducted in UK found that the main reason of attraction for adopting Oral and Maxillofacial Surgery (OMS) was that it is complex; challenging and hospital based surgical specialty [23]. It was also determined by our study that out of 11 male students 09 (27.3%) choose to adopt Oral and Maxillofacial Surgery (OMS) and out of 22 females 10 (30.3%) had opted for Oral and Maxillofacial Surgery (OMS).

In the UK, Ireland and USA medical graduates are also allowed to choose Oral and Maxillofacial Surgery (OMS) as specialty for post-graduation. A study conducted on Irish medical graduates found that out of 329 medical graduates only 34 (9%) were interested to adopt Oral and Maxillofacial Surgery (OMS) as future career and most of the medical students had very limited teaching and clinical experience of Oral and Maxillofacial Surgery (OMS) [9].

Those students who rejected the Oral and Maxillofacial Surgery (OMS) were more interested in Orthodontics as a career; and the most common reason for rejection of Oral and Maxillofacial Surgery (OMS) as specialty was that most students liked other spe-

cialties. This result is comparable to the previous studies. A study conducted in England confirmed that reason of leaving postgraduate training in Oral and Maxillofacial Surgery (OMS) was disturbance in work life balance. Most of those candidates who were no longer interested in Oral and Maxillofacial Surgery (OMS) would like to adopt general dentistry and oral surgery [24].

A comparative study conducted on undergraduate science students and senior dental students showed that there is still lack of understanding regarding scope of Oral and Maxillofacial Surgery (OMS) and most of the students considered that when they were called "Oral and Maxillofacial Surgeons" have better scope as compared to when they were called "Oral surgeon". Guerrero, et al. [6] suggested that by changing the name from Oral and Maxillofacial surgeon (OMS) to Oral and facial surgeon will result in improved recognition of Oral and Maxillofacial Surgery (OMS) among general public and medical practitioners.

## Conclusion

This study has proved that final year dental students have better knowledge of scope of Oral and Maxillofacial Surgery (OMS). Most of the students wanted to adopt Oral and Maxillofacial Surgery (OMS) as their field of post-graduation. Students find Oral and Maxillofacial Surgery (OMS) very challenging and interesting field. We recommend that the curriculum of dental students should be designed which is helpful for the students to acquire more knowledge and skills of Oral and Maxillofacial Surgery (OMS). There should be more opportunities of post-graduation and jobs Oral and Maxillofacial Surgery (OMS). In the end Iqbal, et al. would like to declare that there is no conflict of interest in the preparation of this study.

**PROFORMA**

**INSTRUCTIONS:** Please Tick (✓) mark all sections of the form, do not leave any question. There is no marking/ testing evaluation & is designed for research purpose only.

**Q1: WHERE WILL YOU REFER PATIENTS WITH BELOW MENTIONED PROBLEMS IF MAY OCCUR? Please align the boxes in front; may have similar choices.**

<input type="checkbox"/> FRACTURE OF THE JAWS	<input type="checkbox"/> PLASTIC SURGEON
<input type="checkbox"/> CORRECTION OF JAW DEFORMITY	<input type="checkbox"/> GENERAL SURGEON
<input type="checkbox"/> CLEFT LIP & PALATE REPAIR	<input type="checkbox"/> NEUROSURGEON
<input type="checkbox"/> SALIVARY GLAND PROBLEM	<input type="checkbox"/> ORAL & MAXILLOFACIAL SURGEON
<input type="checkbox"/> LIP CANCER	<input type="checkbox"/> EAR NOSE THROAT (ENT) SURGEON
<input type="checkbox"/> TEMPORO MANDIBULAR JOINT DISORDER	<input type="checkbox"/> DENTAL SURGEON
<input type="checkbox"/> ORAL CANCER	
<input type="checkbox"/> IMPACTED TOOTH	

**Q2: Would you like to adopt Oral & Maxillofacial surgery as your career pathway?**

YES  NO

**Q3: If NO, which other specialty would you like to choose?**

<input type="checkbox"/> ORTHODONTICS	<input type="checkbox"/> PERIODONTICS	<input type="checkbox"/> PROSTHODONTICS
<input type="checkbox"/> BASIC SCIENCES	<input type="checkbox"/> OPERATIVE DENTISTRY	<input type="checkbox"/> IMPLANTOLOGY
<input type="checkbox"/> ENDODONTICS	<input type="checkbox"/> PAEDODONTICS	<input type="checkbox"/> GENERAL DENTISTRY

**Q4: If No, what is the reason for not choosing Oral & Maxillofacial surgery as your specialty?**

<input type="checkbox"/> I HAVE DIFFERENT APPTITUDE	<input type="checkbox"/> I LIKE OTHER SPECIALTY
<input type="checkbox"/> IT HAS MORE PROFESSIONAL COMMITMENT	<input type="checkbox"/> IT HAS LOW POTENTIAL INCOME
<input type="checkbox"/> OTHER REASON	

**Q5: If YES, what attracts you to choose Oral & Maxillofacial surgery as your career pathway?**

<input type="checkbox"/> VARIETY OF WORK	<input type="checkbox"/> MAKING A DIFFERENCE TO PATIENTS
<input type="checkbox"/> INTERESTING WORK	<input checked="" type="checkbox"/> CHALLENGING WORK
<input type="checkbox"/> BECAUSE OF YOUR FAVOURITE TEACHER	

**Annexure 1:** Multiple choice questionnaire.

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