

# Awareness about Oral & Maxillofacial Surgery among Final Year Medical Students and Medical Practitioners of District Kohat, Khyber Pakhtunkhwa

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## ABSTRACT

### Objective:

To gauge awareness about oral & maxillofacial surgery of final year medical students and medical practitioners of District Kohat, Khyber Pakhtunkhwa.

### Methodology:

This study was conducted at KIMS (KMU-Institute of Medical sciences) and its affiliated District Headquarters (DHQ) Hospital, Kohat. Every participant was given a separate questionnaire to fill. The questionnaire comprised of demographics of participant and questions regarding referrals for nine different clinical conditions. Referral options were ENT surgeon, plastic surgeon, general surgeon, OMF surgeon and dental surgeon.

### Results:

OMF surgeon was preferred specialty for treatment of facial trauma by 88% medical students, 88.68 % house officers, 90 % medical officers and 100% consultants. Largest percentage of medical students 40%, house officers 45.3%, medical officers' 70% and 42.8% consultants referred to OMFS for jaw pathology. For TMPDS, a big number of all i.e. 57% of medical students, 64% house officers, 77.5% medical officers and 71% consultants referred to OMFS. For surgical removal of lower wisdom teeth, 90 % medical students, 79 % house officers, 80 % medical officers, and 85.7 % consultants opted for dental surgeon instead of OMF surgeon. Similarly, for dental implant, 78 % medical students, 69.8 % house officers, 65 % medical officers and 28.5 % consultants deemed dental surgeon appropriate for dental implant. Trigeminal neuralgia was referred to neurosurgeon by 86 % medical students, 68 % house officers, 80 % medical officers and 71.4 % consultants. For facial asymmetry, plastic surgeon was chosen by 75 % of medical students, 73 % of house officers, 60 % of medical officers and 71 % of consultants.

### Conclusion:

Though awareness about managing facial trauma, jaw swelling, TMPDS was found but there is room for establishing awareness of OMFS for most of the other clinical conditions.

### Keywords:

OMFS, OMF surgeon, awareness, medical practitioners

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## INTRODUCTION

The term "oral & maxillofacial surgery" (OMFS) takes its origin from the anatomical region with which it deals.<sup>1</sup> OMF surgery is a specialty which deals with diseases, injuries and defects of head, neck, face, jaws and hard and soft tissues of oral (mouth) and maxillofacial (jaws and face) region. Scope of practicing OMF surgery includes facial cosmetic surgery, cleft lip and palate surgery, orthognathic (corrective jaw) surgery, facial trauma, head and neck

cancer and reconstructive surgery. Facial pain, oral mucosal disease and infections of Oro-facial region are part of non-surgical problems dealt by OMFS specialty.<sup>2</sup>

It is an internationally recognized surgical specialty.<sup>2</sup> In UK, it is recognized as a medical specialty whereas in US, it is a recognized specialty of dentistry.<sup>3</sup> Although traditionally a "dentistry first, medicine second" training route, OMFS in UK is increasingly populated with medicine-first trainees at ST3 level.<sup>4</sup>

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In Irish medicine, OMFS remains an enigmatic specialty and a lot of students are unaware of its scope and its unique career pathway.<sup>5</sup> A study done in England in OMFS department, Sunderland district general hospital showed that most medical and dental practitioners had heard of specialty of OMFS but lack knowledge about its full scope.<sup>6</sup> It is well documented in literature that medical professionals and general public in various countries across the globe have a low awareness pertaining to OMFS.<sup>7-9</sup> It is important for all the stakeholders (patients, medical community) to know the importance and various procedures done by OMFS.<sup>10</sup>

Patients presenting to general medical practitioners with problems that specifically require expertise of OMF surgeon demand a thorough knowledge of wide scope of OMFS on part of medical practitioner. Anything less than that can result in incorrect referral, inadequate treatment and consequently, damage to patient both financially and health wise. Just knowing the name of specialty does not suffice. Surgical procedures and different disease entities that come under umbrella of OMFS better be known to medical practitioners. It has been found that, unfortunately, local and regional data about the awareness of medical practitioners regarding OMFS is very limited.

The main objective of this study was to gauge the awareness about OMFS of final year medical students and medical practitioners of Kohat district in Khyber Pakhtunkhwa.

## METHODOLOGY

This descriptive cross-sectional study was conducted at KIMS (Khyber Medical University-Institute of Medical Sciences) and its affiliated District Headquarters hospital, Kohat, from January 2018 to March 2018. This study included participants from medical fraternity only and were divided into 4 groups; final year MBBS students, house officers, medical officers and assistant professors of different departments. Dental practitioners, dental students and paramedical staff were excluded from the study. Number of medical students that participated in study was 100. 53 were house officers whereas number of medical officers and assistant professors were 40 and 7 respectively.

Every participant was given a separate questionnaire to fill. Pre-validated questionnaire was selected. Questionnaire was validated from Shah *et al* study.<sup>2</sup> It comprised of demographics of the participants and questions regarding referral for 9 different clinical conditions. Demographics included gender and age. Nine different clinical situations were facial trauma (fracture maxilla, mandible, zygomatic bone), jaw swelling/jaw pathology, carcinoma of tongue,

surgical removal of lower wisdom teeth, facial asymmetry, dental implant, oro-facial infection, TMPDS (Temporomandibular pain dysfunction syndrome) and trigeminal neuralgia. Referral options were ENT surgeon, plastic surgeon, general surgeon, OMF surgeon and dental surgeon. For TMPDS, general surgeon was replaced by physiotherapist and plastic surgeon was substituted by neurosurgeon for trigeminal neuralgia.

At the end, a close-ended question was put regarding hearsay about the specialty. Data obtained was analyzed with SPSS version 20.0 by taking out mean and SD for age and percentages for gender, hearsay about OMFS and responses of medical students/house officers/medical officers/assistant professors for OMFS specialty and other specialties (ENT, plastic, general and dental surgery) regarding each clinical situation.

## RESULTS

Total of 200 medical professionals participated in the study out of which 80 (40%) were females and 120 (60%) were males with a male to female ratio of 3:2. An age range of 23 to 40 years was observed. Mean age turned out to be 28.4 ± 4.2 years.

Priority for OMFS for each clinical situation by medical students, house officers, medical officers and assistant professors is shown in *Figure 1*.

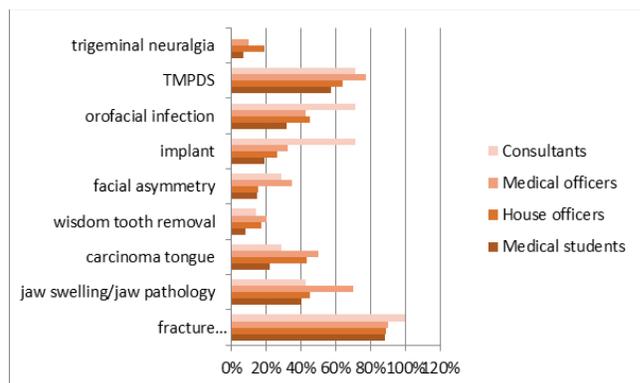


Figure 1: Preference for OMFS by all groups for different clinical situations

OMF surgeon was the preferred specialty for treatment of facial trauma by 88% medical students, 88.6 % house officers, 90 % medical officers and 100% consultants.

Largest percentage of medical students 40%, house officers 45.3%, medical officers 70% and 42.8% consultants referred to OMFS for jaw swelling/pathology.

For TMPDS, a big number of all i-e 57% of medical students, 64% house officers, 77.5 % medical officers and 71.4 % consultants referred to OMFS.

Response from Medical students					
	ENT surgeon	Plastic surgeon/ Neurosurgeon for TN	Oral & maxillofacial surgeon	General surgeon/ Physiotherapist for TMPDS	Dental surgeon
Facial trauma/fracture maxilla, mandible, zygomatic bone	9%	0%	88%	3%	0%
Jaw swelling/jaw pathology	22%	1%	40%	4%	33%
Carcinoma tongue	43%	3%	22%	26%	6%
Wisdom tooth removal	1%	1%	8%	0%	90%
Facial asymmetry	3%	75%	15%	1%	6%
Implant	1%	2%	19%	0%	78%
Oro-facial infection	52%	0%	32%	5%	11%
TMPDS	22%	2%	57%	10%	9%
Trigeminal neuralgia (TN)	5%	86%	7%	1%	1%

Table 1: Response from medical students

Orofacial infection was referred to OMF surgeon by 45.3% of house officers, 42.5% medical officers and 71.4% consultants, the largest majority of all. ENT was the chosen referral by 52% medical students and OMFS by 32% of medical students, with ENT being the first option for a great majority of medical students.

Response from House Officers					
	ENT surgeon	Plastic surgeon/ Neurosurgeon for TN	Oral & maxillofacial surgeon	General surgeon/ Physiotherapist for TMPDS	Dental surgeon
Facial trauma/fracture maxilla, mandible, zygomatic bone	8%	2%	89%	2%	0%
Jaw swelling/jaw pathology	25%	4%	45%	0%	26%
Carcinoma tongue	26%	2%	43%	23%	6%
Wisdom tooth removal	2%	2%	17%	0%	79%
Facial asymmetry	0%	74%	15%	0%	11%
Implant	2%	2%	26%	0%	70%
Oro-facial infection	32%	4%	45%	4%	15%
TMPDS	8%	2%	64%	13%	13%
Trigeminal neuralgia (TN)	2%	68%	19%	0%	11%

Table 2: Response from house officers

Carcinoma of tongue was referred to OMF surgeon by 43.4% of house officers and 50% of medical officers, biggest number of both. Largest majority of medical students i.e. 43% referred to ENT surgeon whereas 2<sup>nd</sup>

largest percentage of 26% referred to general surgeon. Percentage of consultants that referred to OMFS was 28.6% which was equal to referral for general surgeon and dental surgeon.

Response from Medical Officers					
	ENT surgeon	Plastic surgeon/ Neurosurgeon for TN	Oral & maxillofacial surgeon	General surgeon/ Physiotherapist for TMPDS	Dental surgeon
Facial trauma/fracture maxilla, mandible, zygomatic bone	0%	0%	90%	2%	8%
Jaw swelling/ jaw pathology	5%	0%	70%	3%	23%
Carcinoma tongue	28%	0%	50%	15%	8%
Wisdom tooth removal	0%	0%	20%	0%	80%
Facial asymmetry	3%	60%	35%	0%	3%
Implant	0%	3%	33%	0%	65%
Oro-facial infection	20%	0%	43%	5%	33%
TMPDS	0%	0%	78%	8%	15%
Trigeminal neuralgia (TN)	8%	80%	10%	0%	3%

Table 3: Response from medical officers

For surgical removal of lower wisdom teeth, 90 % medical students, 79 % house officers, 80 % medical officers, and 85.7 % consultants opted for dental surgeon instead of OMF surgeon.

Similarly, for dental implant, 78 % medical students, 69.8 % house officers, 65 % medical officers and 28.5 % consultants deemed dental surgeon appropriate for dental implant. Consultants with 71.4 percentage made the correct referral of OMF surgeon.

Response from Consultants					
	ENT surgeon	Plastic surgeon/ Neurosurgeon for TN	Oral & maxillofacial surgeon	General surgeon/ Physiotherapist for TMPDS	Dental surgeon
Facial trauma/ fracture maxilla, mandible, zygomatic bone	0%	0%	100%	0%	0%
Jaw swelling/ jaw pathology	29%	0%	43%	0%	29%
Carcinoma tongue	14%	0%	29%	29%	29%
Wisdom tooth removal	0%	0%	14%	0%	86%
Facial asymmetry	0%	71%	29%	0%	0%
Implant	0%	0%	71%	0%	29%
Orofacial infection	14%	0%	71%	0%	14%
TMPDS	0%	0%	71%	14%	14%
Trigeminal neuralgia (TN)	0%	71%	0%	0%	29%

Table 4: Response from assistant professors

Trigeminal neuralgia was referred to neurosurgeon by 86 % medical students, 68 % house officers, 80 % medical officers and 71.4 % consultants.

For facial asymmetry, plastic surgeon was chosen by 75 % of medical students, 73.6 % of house officers, 60 % of medical officers and 71 % of consultants.

#### Hearsay about OMFS specialty before

A large percentage of all groups had already heard about the OMFS specialty before (medical students 93%, house officers 98.1%, medical officers 95%, consultants 85.7%).

## DISCUSSION

A study by Rastogi *et al* showed that for facial trauma, medical professionals prefer to consult OMFS.<sup>11</sup> A similar result turned out in the current study. Reddy *et al* study is also in accordance to the present study.<sup>3</sup> Rocha *et al* and Jarosz *et al* study presented that in Brazil and in New Jersey, respectively, patients are most likely referred to OMFS for such conditions.<sup>12,13</sup> It is probably the high incidence of road traffic accidents (RTAs) that leads to maxillofacial trauma. Thus facial trauma constitutes the major bulk of patients in maxillofacial OPD and ward.

For a question on jaw swelling/jaw pathology, majority of all consulted OMFS which is in accordance to study by Subhashraj *et al* where medical practitioners, and medical students also referred to OMFS.<sup>9</sup> This may be because jaw is

closely related to teeth. But this is in contrast to study by Shah N *et al* where a small number of different specialists referred cases of cyst and tumors to OMFS.<sup>2</sup> Rocha *et al* results also preferred ENT for mandibular tumors by medical professionals.<sup>12</sup> Probably medical professionals have the perception that only ENT surgeons can be considered as head and neck surgeons.

For TMPDS, all medical colleagues in the current study preferred OMFS. In contrast, a survey by Vadepally *et al* revealed that most of the medical doctors do not know where to refer the patients with TMJ (temporomandibular joint) problems.<sup>1</sup> This difference may be due to less well localized symptoms in TMJ problems.

Except for medical students, oro-facial infection was done by OMFS in the current study which is also in contrast to Shah N *et al* study where very small of different specialists refer patient to OMFS.<sup>2</sup> This is may be due to overlapping scope of OMFS with other specialties.

With regard to Carcinoma tongue, most of the house officers and medical officers consulted OMF surgeon. Consultants opted for OMF surgeon, general surgeon and dental surgeon equally. In Ali F *et al* study, oral cancer was thought scope of OMFS by most of the medical practitioners which is according to this study.<sup>14</sup> Medical students of this study preferred ENT surgeon. In a study by Subhashraj *et al*, all medical community including medical students, medical practitioners preferred ENT surgeon.<sup>9</sup> This is in accordance to present study for medical students. A study conducted on final year medical students at Oxford university and St. George university medical school showed that medical students had poor knowledge of OMFS and patients were inappropriately referred to ENT or plastic surgeon.<sup>15</sup> This may be due to less exposure of medical students and consultants to carcinoma tongue and also lesser knowledge of OMFS specialty resulting in both less referral to OMFS and incorrect referral to general surgeon.

Surgical Removal of lower wisdom teeth was referred to dental surgeon by major percentage of all in the current study. Similar findings were observed in Vadepally *et al* study where 95% medical professionals would seek help of a general dentist for surgical extraction of wisdom teeth.<sup>1</sup> The fact behind this is lack of awareness that an OMF surgeon is more trained and skillful to provide flawless treatment for such a procedure. Whereas in study by Ali F *et al*, wisdom tooth removal was considered domain of OMFS by most of medical practitioners.<sup>14</sup>

Dental rehabilitation with implant was believed to be managed by a dental surgeon by most medical students and medical practitioners. Study by Sharma R *et al* was with identical results.<sup>16</sup> But this is in contrast to study by Reddy *et al* where impactions and implants were done by OMF surgeon showing that OMF surgeons are perceived as dentists.<sup>3</sup> Current finding may be because dental surgeon is a more familiar term than OMF surgeon. Also teeth and dental are two such words which fit the scope of dental surgery more than OMFS.

Trigeminal neuralgia was referred to neurosurgeon by majority of all which is in accordance to Shah N *et al* study where also small number of cases were referred to OMFS.<sup>2</sup> Cause can be the involvement of nerve, a structure which seems to be more closely related to neurosurgeon.

Facial asymmetry was referred to plastic surgeon in this study by majority percentage of all. Similarly, in a study by Ifeacho *et al*, none expected OMFS to treat patients who were unhappy with their facial appearance and preferred a plastic surgeon.<sup>7</sup> Reason for this may be cited as plastic surgery is considered to be related to esthetics and cosmetics more than any other specialty even by medical fraternity.

Medical students and consultants considered ENT and general surgeon respectively, better to handle carcinoma of tongue. Medical students think that Oro-facial infection is better managed by ENT. All medical categories opted dental surgeon instead of OMF surgeon for surgical removal of lower wisdom teeth and dental implants, considering surgical extraction of wisdom teeth and dental implants on par with general dental procedures performed by a general dentist and implying that they are unaware of OMF surgeon as being better suited for these surgical procedures due to intense training and can give more satisfactory results than a general dentist. Despite the fact that OMFS has been dealing with facial asymmetry in the hospitals, majority believed that plastic surgery is the concerned specialty for it. Trigeminal neuralgia, instead of OMF, was assigned to neurosurgeon by all groups. This shows that role of OMFS is not well established and medical students and medical practitioners of Kohat lack awareness of OMFS. A study by Samson *et al* presented same findings that medical students and medical practitioners are not aware of the various procedures done by OMFS.<sup>10</sup>

Hearsay about OMFS specialty in the current study got a positive yes from almost all. This is in contrast to a study conducted in United Kingdom in 2005 that compared results with a previous study, conducted at same place 10 years ago found that despite improvement in perception of role of OMFS, only 34 of the 100 people had heard of OMFS.<sup>7</sup> A greater recognition of name of specialty in the present study may be the outcome of relatively increased number of dental colleges all across Pakistan during the past few decades. Pakistan has been able to produce many OMF surgeons and thus, OMFS has comparatively become a more common name.

Hunter *et al* study shows that although most of medical practitioners have heard of specialty but very small number knows the full extent of it.<sup>8</sup>

## CONCLUSION

Though awareness to some extent is found among medical practitioners, but there is still lack of awareness of many clinical conditions like carcinoma of tongue, orofacial infection, surgical extraction of wisdom teeth, dental implants, facial asymmetry and trigeminal neuralgia.

OMF surgeons should take the challenge of increasing the awareness and knowledge about OMFS among health care professionals, with a motive of providing benefit to public. They should act as promoters, guardians and ambassadors of specialty so that role of OMFS is not misjudged anymore.

*Hearsay about OMFS specialty*

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