

# Assessing The Knowledge of The Patients About The Scope of Oral and Maxillofacial Surgery

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## Abstract

**Introduction:** Oral and maxillofacial surgery (OMFS) is a comparatively new surgical specialty that primarily emphasizes identifying and managing disorders of the head and neck, bridging dentistry and medicines.

**Objectives:** The basic aim of the study is to assess the knowledge of the patients about the scope of oral and maxillofacial surgery.

**Material and Methods:** This cross-sectional survey was done in Peshawar, Pakistan, between April 1, 2020, to May 30, 2020, with a total of two hundred and sixty-five participants (n = 265). Individuals from the general population, licensed dentists, and medical experts from the private and public healthcare sectors participated in this study.

**Result:** We surveyed 256 participants, of whom 39% were illiterate. 94% of those individuals were unaware of a department called maxillofacial surgery that specializes in treating head, neck, and face illnesses. 19% of the population was in elementary school, of which only 2% were aware of a "special doctor" for their requirements since their parents were concerned about their illness and were finally referred by another doctor (80%) or a relative (20%). 15% of students with secondary/intermediate education and 5% of those recognized maxillofacial surgeons as acceptable physicians for their treatment, primarily for dental extractions and/or palatal cleft patients who had been receiving therapy from infancy or post-operative TMJ ankyloses patients.

**Conclusion:** Much of the common public was not aware of the scope of Oral and Maxillofacial surgery. While the majority of medical graduates surveyed knew that maxillofacial surgeons treat facial injuries, the vast majority did not know that these specialists treat a wide variety of certain other disorders affecting the head and neck. The need for spreading awareness among the population regarding the domains of Oral and Maxillofacial surgery is evident.

**Keywords:** OMFS, Disorder, Patients, Knowledge, Research

## Introduction

Oral and maxillofacial surgery (OMFS) is a comparatively new surgical specialty that primarily emphasizes identifying and managing disorders of the head and neck, bridging dentistry and medicines.<sup>1,2</sup> OMFS is the surgical specialty dealing with the diagnosis and surgical treatment of illnesses of the mouth, jaws, face, and neck. These are highly trained medical professionals equipped to treat a wide array of oral and face disorders.<sup>3</sup> Additionally, traumatology, dentofacial deformities, head and neck cancers and reconstruction, and temporomandibular diseases have all benefited from the OMFS's rapid growth over the last decade.<sup>4</sup> However, there are still discrepancies in how well students, healthcare professionals, and the general population understand the scope of OMFS and how familiar they are with OMFS surgeries, even though OMFS is recognized as a

speciality of the facial skeleton by substantial hospitals around the globe.<sup>2,5</sup> Previous study in Kuwait by Haron et al. examined both dental and medical practitioners' assessment of OMFS. It revealed a discrepancy in health provider consultations for different head and neck disorders relying on a questionnaire survey examining 26 procedures.<sup>6</sup> Similar research by Alnofaie et al. in Saudi Arabia revealed substantial disparities in how dentists and medical professionals perceive OMFS.<sup>7</sup> One of the fastest-growing fields in medicine, oral and maxillofacial surgery in Pakistan is concentrated in the country's major urban centers. Throughout its history, Pakistan has seen a significant expansion of the breadth of the specialized field. It began as a small oral surgical program in the early 1990s, treating only simple cases of maxillofacial trauma and injuries to the teeth and gums. Maxillofacial surgeons in Pakistan now treat patients for a wide range of conditions, including facial trauma, cleft lip and palate, bone grafting, facial deformity repair, craniofacial surgery, cosmetic facial surgery, TMJ surgery, implant surgery, and more complex treatments.<sup>8,9</sup>

Even with all the progress made, the dentistry and medical communities still have a minimal understanding of maxillofacial surgery. General public knowledge is significantly lower. Researchers in the United States and the United Kingdom found that the medical and dentistry communities and the general public had a limited

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understanding of the services provided by maxillofacial units.<sup>9</sup> According to research performed in England by Ameerally et al., up to 79% of the population is unfamiliar with the OMFS unit, and roughly 74% are confused about its function.<sup>10</sup> Despite widespread familiarity with the term "specialty," Ifeacho et al. discovered that healthcare practitioners lacked an understanding of the therapeutic benefits of this study area.<sup>11</sup> Hunter et al. observed that healthcare providers unfamiliar with this area did not recommend patients suffering issues overlapping with specific other disciplines to maxillofacial and oral surgeons.<sup>12</sup>

If there is a lack of understanding in industrialized nations, the situation in a developing nation like Pakistan would likely be worse. Because of this, OMFS specialty must exercise its entire scope of practice to be recognized. It is crucial to increase awareness about the value of OMFS and the surgeon's expertise in this area of medicine. In addition, it is necessary to raise public knowledge of OMFS so that patients may seek the correct referral pattern from their physicians. In the long run, this will improve both the degree of success achieved and the quality of health care delivered. In addition, this will allow us to reevaluate current referral practices, launch much-needed awareness programs amongst healthcare providers better to educate them on the breadth of the specialty, and fine-tune the OMFS-related material of all medicine and dentistry school curricula. The basic aim of the study is to assess the knowledge of the patients about the scope of oral and maxillofacial surgery.

## Materials and Methods

This cross-sectional survey was done in Peshawar, Pakistan, between April 1, 2020, and May 30, 2020. Participants residing in the city of Peshawar were eligible for inclusion in the study. Individuals of all age groups were considered for participation. Individuals who did not provide informed consent for participation were excluded from the study. Individuals who were unable to effectively communicate or comprehend the survey questions due to language barriers or cognitive impairments were excluded from the study. Individuals from the general population, licensed dentists, and medical experts from the private and public healthcare sectors participated in this study. All respondents were above 18 (guardians in case of patients younger than 18 years), and they signed a consent form indicating their understanding and acceptance of the survey's terms and conditions, including the confidentiality clause. A structured questionnaire was prepared to assess the participants' knowledge regarding oral and maxillofacial surgery (OMFS). The questionnaire included a series of both multiple-choice and open-ended questions, designed to cover various aspects of OMFS, including its scope, common conditions treated, surgical procedures involved, and potential outcomes. The variables studied consisted of demographic information such as age, gender, and education level, as well as participants' awareness of OMFS as a medical specialty, their knowledge of conditions treated by OMFS, their understanding of surgical procedures, and their familiarity with the potential outcomes and benefits of OMFS. This questionnaire was verbally translated into the local language for the understanding of the patients. Data was analyzed using SPSS version 19.0. Descriptive statistics, including frequencies and percentages, were employed to summarize the participants' knowledge and awareness levels regarding oral and maxillofacial surgery.

## Results

We surveyed 256 participants, of whom 39% were illiterate. 94% of those individuals were unaware of a department called maxillofacial surgery that specializes in treating head, neck, and face illnesses. 19% of the population was in elementary school, of which only 2% were aware of a "special doctor" for their requirements since their parents were concerned about their illness and were finally referred by another doctor (80%) or a relative (20%). 15% of students with secondary/intermediate education and 5% of those recognized maxillofacial surgeons as acceptable physicians for their treatment, primarily for dental extractions and/or palatal cleft patients who had been receiving therapy from infancy or post-operative TMJ ankyloses patients.

Approximately 16% of our research participants were undergraduates seeking treatment for severely decayed teeth, opting for orthognathic surgery (100% from recommendation by an orthodontist), or suffering from temporomandibular joint discomfort.

Table 01: Distribution of participants

| Education Level                   | Percentage out of a total of 256 patients | Maxillofacial Surgery Special Doctor Awareness (%) |
|-----------------------------------|---|--|
| Illiterate                        | 39%                                       | 4%   |
| Primary Schooling                 | 19%                                       | 2%   |
| Secondary/ Intermediate Education | 15%                                       | 5%   |
| Undergraduate Student             | 16%                                       | 4%   |
| Postgraduate Student              | 11%                                       | 20%  |

Only 4% of the people with no educational background knew that a maxillofacial surgeon was involved in their treatment. Eleven percent of the people we talked to were post-graduate students. Among them, twenty percent admitted that they had heard of the maxillofacial surgical department as the place to go for issues involving the head, neck, and face. Of these individuals, 2% sought an implant-supported prosthesis, and 4% had previously had an experience with a maxillofacial surgeon about maxillofacial trauma.

The results of the survey indicate that a minority (25%) of participants correctly recognized that oral and maxillofacial surgeons should be consulted for trauma to the head and neck. While a portion (15%) of participants acknowledged the need to consult oral and maxillofacial surgeons for cancer of the oral cavity and face, the majority (85%) were unaware of this role. Although some participants (20%) recognized the role of oral and maxillofacial surgeons in managing painful conditions, the majority (80%) were not aware of this aspect.

Table 02: Awareness of knowledge in all participants

| Question  | Yes (%) | No (%) |
|---|---------|--------|
| Should oral and maxillofacial surgeons be consulted for trauma to the head and neck?  | 25%     | 75%    |
| Should oral and maxillofacial surgeons be consulted for cancer of the oral cavity and face?   | 15%     | 85%    |
| Should oral and maxillofacial surgeons be consulted for swellings or lesions of the oral cavity and face?   | 22%     | 78%    |
| Should oral and maxillofacial surgeons be consulted for acquired and developmental anomalies such as cleft lip and palate, post ablative surgery defects, etc.? | 10%     | 90%    |
| Should oral and maxillofacial surgeons be consulted for painful conditions of the oral cavity and face?   | 20%     | 80%    |
| Should oral and maxillofacial surgeons be consulted for simple or complicated removal of teeth?   | 8%      | 92%    |
| Should oral and maxillofacial surgeons be consulted for infections of the oral cavity and face?   | 13%     | 87%    |
| Should oral and maxillofacial surgeons be consulted for the placement of implants?  | 12%     | 88%    |

Chi-square tests conducted on the data show significant associations between education level and awareness of dental treatments, as evidenced by Pearson's Chi-square value of 55.114 ( $df=5$ ,  $p=0.001$ ), Likelihood ratio value of 60.499 ( $df=5$ ,  $p=0.000$ ), and Linear-by-linear association value of 29.209 ( $df=2$ ,  $p=0.000$ ), based on 256 valid associations.

Table 03: Different education levels of patients to show how education level affects awareness

|                                   | High School or Below | College | Bachelor's Degree | Master's Degree | Ph.D. or Higher |
|-----------------------------------|----------------------|---------|-------------------|-----------------|-----------------|
| Tooth Extraction                  | 65%                  | 75%     | 85%               | 90%             | 95%             |
| Dental Implant Placement          | 60%                  | 70%     | 80%               | 85%             | 90%             |
| Wisdom Tooth Removal              | 70%                  | 75%     | 85%               | 88%             | 92%             |
| Orthognathic Surgery              | 30%                  | 40%     | 55%               | 65%             | 75%             |
| Temporomandibular Joint Surgeries | 40%                  | 50%     | 60%               | 70%             | 80%             |
| Facial Trauma Management          | 50%                  | 55%     | 65%               | 75%             | 85%             |

Table 04: Chi-square tests

|                              | Value  | df | Asymptomatic significance (two-sided) |
|------------------------------|--------|----|---------------------------------------|
| Pearson's Chi-square         | 55.114 | 5  | .001                                  |
| Likelihood ratio             | 60.499 | 5  | .000                                  |
| Linear-by-linear association | 29.209 | 2  | .000                                  |
| No. of valid associations    | 256    |    |                                       |

## Discussion

Understanding and perceptions of the OMFS specialty are vital to its growth. Due to OMFS' extensive area of practice that overlaps with several medical disciplines, there is a substantial variance in the referral priorities of health professionals, students, and the wider population.<sup>7,13</sup> According to Jensen, it might be challenging to determine which clinical specialization is most suited for a given situation because of the overlapping in scope between nearly all of them.<sup>14</sup> For this reason, it is crucial for every health sector to create transparent clinical practice guidelines and inter-departmental referral channels. In the long run, efficient referral protocols improve the quality of treatment provided to patients, reduce the strain on healthcare resources, and boost the quality of care.<sup>15,16</sup>

According to research by Laskin<sup>17</sup>, Lesny<sup>18</sup>, and Langdon<sup>19</sup>, most medical postgraduates know OMFS as a department, but most of them are unaware of the extensive clinical spectrum of this specialty. Comparable findings were found in the research we conducted. According to research performed in England by Ameerally et al., upwards of 79% of the population was unaware of the OMFS section, and only around 74% of those aware of it could correctly describe its function.<sup>10</sup>

How the community perceives OMFS is just as crucial as how doctors and nurses feel about it. Those living in Pakistan can visit any private sector clinic, regardless of whether or not they have insurance. The risk of incorrect self-referrals offsets unfettered access's advantages (such as quick patient turnover).<sup>8</sup> In the current study, among those with secondary or intermediate education, 5% found maxillofacial surgeons to be suitable doctors, most often for tooth extractions and/or palatal cleft patients who had been undergoing therapy since childhood, or for patients with TMJ ankyloses who had had a

surge. Among those with primary education, 2% found a maxillofacial surgeon to be a suitable doctor, most often for tooth extractions and palatal cleft individuals undergoing therapy since childhood or post-operative TMJ ankyloses patients.<sup>20</sup>

According to study conducted by Mohammad et al (2021), there is a need to increase awareness especially towards cosmetic surgery procedures, and conduct health campaigns regarding oral and maxillofacial surgery among healthcare professionals, especially medical doctors, and the general public. These results represents the values as our study related to it. According to Lau SL, medical conditions presented to medical postgraduates may fall within the purview of various specialties. Notably, oral and maxillofacial surgeons possess the capability to address all of the mentioned conditions. While there may be some overlap in responsibilities among specialties, there exists no absolute delineation of who should manage specific cases. This determination is contingent upon the individuals' training and the prevailing medical culture in different locales. Lau's study revealed that postgraduates affiliated with medical colleges linked to dental institutions exhibited superior proficiency in referring patients with diverse conditions within the realm of oral and maxillofacial surgery compared to those from medical colleges without such affiliations. Typically, a dental practitioner would refer such cases predominantly to an oral and maxillofacial surgeon, while a medical professional might approach it differently. Our findings indicate that most medical and dental clinicians will refer to OMFS for jaw fractures, orbital fractures, and dental trauma instead of ENT, GS, or PS, which is consistent with Rocha et al.'s findings. Ameerally et al., [8] did a study in England and shown that around 74% did not understand the role and scope of OMFS and up to 79% of the general population had not heard of OMFS.

## Conclusion

Much of the common public was not aware of the scope of Oral and Maxillofacial surgery. While the majority of medical graduates surveyed knew that maxillofacial surgeons treat facial injuries, the vast majority did not know that these specialists treat a wide variety of certain other disorders affecting the head and neck. Graduates of those medical colleges that also have a dentistry school are more familiar with the range of services provided by OMFS than their counterparts who do not. The need for spreading awareness among the population regarding the domains of Oral and Maxillofacial surgery is evident.

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5. Fahad Ashfaq – Data Collection, Materials Preparation, Literature Support
6. Samavia Mazhar – Editing, Final Approval of Manuscript