

An analysis of approach toward oral and maxillofacial surgery: A survey of 1800 health-care specialists, students, and general people in Odisha, India

ABSTRACT

Aim: The aim of the study is to assess the perception of oral and maxillofacial surgery (OMFS) by health-care professionals, students, and general public in the state of Odisha, India.

Materials and Methods: A questionnaire form was formatted that listed ten clinical situations and given by hand to 1800 individuals, divided into six groups: Group I – general medical practitioners; Group II – specialties of dentistry; Group III – general dental practitioners; Group IV – medical students; Group V – dental students; and Group VI – general public, each comprising 300 individuals. Respondents were asked to indicate who they would expect to treat them if they had one of the specified conditions listed in the questionnaire. We present the results and current awareness levels of this simple questionnaire and in due course educate and inform the society about the treatment OMFS provides.

Results: Most of the respondents in Groups II, III, and V agreed that specific conditions listed in the questionnaire were within the domain of OMFS, but such response was not seen in Groups I, IV, and VI ($P < 0.05$). An overall awareness level of OMFS was found to be 50.8%.

Conclusion: The liability and responsibility of creating and improving the awareness and perception of our specialty lies on oral and maxillofacial surgeon. Unified efforts at individual as well as global level will help achieve this goal.

Keywords: Health care, maxillofacial surgeons, maxillofacial surgery, oral, oral and maxillofacial surgery, students

INTRODUCTION

Oral and maxillofacial surgery (OMFS) is a comparatively new and emerging branch of dentistry in India. It is a superspecialty branch which is an agglomeration of medicine and dentistry, which explores through the limits from oral surgery to craniomaxillofacial surgery. Maxillofacial surgery in India has now expanded to include the management of complex facial trauma, craniofacial deformity, oral oncology, temporomandibular disorders, facial esthetics, and treatment of oral pathologies.

In spite of delivering such wide varieties of treatment modalities in such an important defined anatomical area of the body, it is encountered that the mass is not very well informed and familiar to this particular field of surgery. Accounting the awareness of the field, literature, though very

few in number, shows figures which reveal the shallowness of the familiarity of maxillofacial surgery among society.

Conventionally, most of the referrals to the specialty of OMFS come through the general dental practitioners (GDPs), but as there is an expansion of the treatment options, specialists of

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medical field are also readily involving maxillofacial surgeons into the team.

A few articles over the years have been published denoting the perception and awareness of medical specialists, students, and general public toward the field of OMFS.^[1-3] A study reviewing the impact of oral and maxillofacial journals on undergraduate education was done by Ologunde and Sykes.^[4] A survey was designed based on the analysis done by Vadepally and Sinha^[1] to understand the perceptions of general people and medical practitioners in the state of Odisha, India, toward oral and maxillofacial surgeons. In due course of it, people were also made aware of the field and treatments that maxillofacial surgeons cover and thus would enhance the quantum of referrals to the surgeons from different specialties.

MATERIALS AND METHODS

A questionnaire-based prospective randomized analysis was formatted and carried out in Odisha, India, between June 2017 and December 2017, on 1800 persons divided into 6 independent groups, each amounting to 300 people. The straightforward questionnaire consisted of 10 specified clinical settings operated by OMFS and was distributed randomly to each group, and the individuals were asked to intimate who would they like to be treated by if they had the mentioned clinical conditions [Table 1]. The completed forms were collected and the data were recorded.

The six groups were as follows:

1. Group I – General medical practitioners (GMPs) – Medical professionals and specialists working in the government and private corporate hospitals
2. Group II – Specialists in dentistry (SDs) – Specialties of dentistry (comprising all the 9 specialties of dentistry) working in dental institutes/colleges and clinics
3. Group III – GDPs working in the state of Odisha having their own private practice or working in government setup

4. Group IV – Medical students (MSs)
5. Group V – Dental students (DSs)
6. Group VI [General People (GP)] – This group included people representing different strata of society except health care.

The aim of the study was to explore and assess among different groups of people from different strata of society (either associated or not associated with health-care profession), the percentage of people preferring oral and maxillofacial surgeon for their treatment of mentioned clinical scenarios in the form, and furtherance enlightening the society about this specialty.

Statistical analysis

The statistical analysis was performed using SPSS (Statistical Package for Social Sciences) Version 14.0 Statistical Analysis Software, IBM Company, India. *P* = 0.05 was considered statistically significant. Comparison of categorical variables was made using Chi-square test.

RESULTS

The age range was maintained in all the six groups. There was a predominance of males in all the groups ranging from 65% to 83%, except in the group of DSs where there were 51% of female individuals [Table 2]. We received laudable feedbacks from all the groups. A total of 18,000 responses (10 specified conditions × 6 groups × 300 respondents in each group) were obtained. From each group, 3000 responses (10 specified conditions × 300 respondents) were obtained.

In decreasing order, awareness levels of the OMFS for specified conditions were DS (95%) > SD (81%) > GDP (74%) > MS (21%) > GP (18%) > GMP (15%) [Table 3].

Majority of the feedbacks coming from SD, GDP, and DS groups agreed that mentioned conditions enlisted in the questionnaire were belonged to the realm of OMFS, but it did not correlated with the response of GMP, MS, and GP groups.

Table 1: Questionnaire form

Specified condition	Orthopedic	ENT	Plastic surgeon	Oral and maxillofacial surgeon	General dentist	General surgeon	Oncologist	Others
Wisdom tooth removal								
Facial soft-tissue repair								
Facial fracture								
Facial deformities								
Cleft lip and palate								
Oral cancer								
Facial infections and tumor								
Sinus problems								
TMJ disorders								
Facial aesthetic surgery								

ENT: Ear, nose, and throat, TMJ: Temporomandibular joint

The statistically significant awareness levels of the 6 groups referring to the mentioned clinical conditions convey the limitation of information among the medical professionals, students, and the general public regarding OMFS and the need to update them [Table 3].

The graph is a representation of the feedback by the groups of GMP, MS, and GP in respect to electing medical specialties over OMFS to undergo treatment of the given clinical conditions [Figure 1]. An overall awareness level of OMFS for specified conditions listed in the questionnaire was found to be 50.8% (9153/18,000) among all six groups. Thus, the disparity in recognition of the knowledge of OMFS between the dental fraternity (SD, GDP, and DS groups) and the medical fraternity (GMP and MS groups) and general public (GP) was evident.

DISCUSSION

Odisha is one of the important states of Eastern India, with its state capital featuring in the world's top 10 smart cities.

Table 2: Age range (years), gender, and number (%) of respondents' perception of oral and maxillofacial surgery of specified condition listed in the questionnaire

Group	Age range (years)	Gender (%)	n (%)
1. GMP	30-50	Male - 70 Female - 30	460/3000 (15.3)
2. SD	30-50	Male - 83 Female - 17	2434/3000 (81.1)
3. GDP	30-50	Male - 78 Female - 22	2235/3000 (74.5)
4. MD	20-30	Male - 71 Female - 29	633/3000 (21.1)
5. DS	20-30	Male - 49 Female - 51	2850/3000 (95.1)
6. GP	30-60	Male - 65 Female - 35	541/3000 (18.03)

GMP: General medical practitioner, SD: Specialist in dentistry, GDP: General dental practitioner, MD: Medical student, DS: Dental student, GP: General public

Health care is one of the major aspects of judging a state's development. On assessing the findings of the study, it was observed that individuals associated with dentistry, i.e., the DSs, SDs, and GDPs are well aware of the specialty OMFS deals in and are opining to getting treated for the specific clinical conditions mentioned in the questionnaire by oral and maxillofacial surgeons. The paucity of familiarity of this field was seen among the GMPs, MS, and the general people (GP).

The data revealed from this study were analogous to the study conducted by Vadepally and Sinha at Hyderabad.^[11] In a similar context, studies done by Subhashraj and Subramaniam^[5] at Pondicherry, India, and Jarosz *et al.*^[6] from New Jersey indicated that the DSs were well conversant to the procedures conducted by OMFS. Rangarajan *et al.*^[7] had also concluded similar results in their study. In disparity to the present study, Rocha *et al.*^[2] in Brazil through their research gathered that the country's health-care professionals were well acquainted with the scope of OMFS and suggested educating the general public and MSs and DSs so that there is a proper referral of the patients. On appraising the recognition of OMFS, a comparative study was done by Ifeacho *et al.*^[8] to the findings of the study by Ameerally *et al.*,^[9] and they found that in a time span of 10 years, the percentage had gone from 21% to 34% among health-care professionals and general public. On a similar comparison, we in our study found an increase from 34% to 50.8%. On a different note, a study done by Hunter *et al.*^[10] showed that MSs and DSs though being informed about OMFS but was not well acquainted with the scope of the specialty, thus resulting in the low perception.

It was observed in the study that for certain clinical conditions mentioned in the questionnaire, the medical professionals, students, and general people opted to be treated by specialists of medical fraternity. The reason for this type of feedback could be because of the fact that these conditions

Table 3: Number (%) of respondents' perception of oral and maxillofacial surgery of specified condition listed in the questionnaire with the P

Specified conditions	Group I, n (%)	Group II, n (%)	Group III, n (%)	Group IV, n (%)	Group V, n (%)	Group VI, n (%)	P (Chi-square test)
Wisdom tooth removal	164 (35.65)	292 (12.00)	293 (13.11)	133 (21.01)	293 (10.28)	110 (20.33)	0.667
Facial soft-tissue repair	42 (9.13)	240 (9.86)	221 (9.89)	25 (3.95)	289 (10.14)	43 (7.95)	<0.05*
Facial fracture	35 (7.61)	295 (12.12)	297 (13.29)	173 (27.33)	291 (10.21)	49 (9.06)	<0.05*
Facial deformities	11 (2.39)	263 (10.81)	282 (12.62)	43 (6.79)	288 (10.11)	61 (11.28)	<0.05*
Cleft lip and palate	7 (1.52)	192 (7.89)	265 (11.86)	31 (4.90)	286 (10.04)	44 (8.13)	<0.05*
Oral cancer	71 (15.43)	230 (9.45)	223 (9.98)	54 (8.53)	287 (10.07)	58 (10.72)	<0.05*
Facial infections and tumor	60 (13.04)	222 (9.12)	263 (11.77)	117 (18.48)	284 (9.96)	59 (10.91)	<0.05*
Sinus problems	1 (0.22)	153 (6.29)	133 (5.95)	2 (0.32)	292 (10.25)	32 (5.91)	<0.05*
TMJ disorders	66 (14.35)	273 (11.22)	122 (5.46)	55 (8.69)	299 (10.49)	42 (7.76)	<0.05*
Facial esthetic surgery	3 (0.65)	274 (11.26)	135 (6.04)	0 (0.00)	241 (8.46)	43 (7.95)	<0.05*
Total	460 (15)	2434 (81)	2235 (74)	633 (21)	2850 (95)	541 (18)	9153 (50.8)

TMJ: Temporomandibular joint. *Symbolizes P<0.05 is statistically significant

are treated by other specialties as well, and also, there is brief awareness among people regarding OMFS [Figure 1].

The revelations of the study are very consistent with the studies done in the past on similar subjects. A major aspect of discussion in almost all the articles published in respect to the present subject is that limited knowledge about purview of OMFS among the medical fraternity consists of the practitioners and students.^[1,4,5,8,9] In this regard, we need to understand and propagate that OMFS serves a broad array of treatment options in an important anatomical area of the human body. It deals with the different benign and malignant odontogenic as well as nonodontogenic cysts and tumor of the maxillofacial region. The maxillofacial specialists are trained to clinically diagnose and treat various premalignant lesions and conditions of the oral cavity such as the oral submucous fibrosis, lichen planus, leukoplakia, erythroplakia, and other vesiculobullous lesions. The different types of arteriovascular malformations and developmental defects associated with the craniofacial regions can be negotiated perfectly by a trained maxillofacial surgeon. Thus, it is imperative to say that a maxillofacial surgeon is responsible and competent to diagnose and treat different traumatic injuries and congenital and developmental defects associated with the oral and maxillofacial region.

With the advent of technological advancement and its incorporation into the field of health care, the treatment options have increased considerably for the patients and have made situations and operative procedures favorable for the maxillofacial surgeons.^[11] The availability of stereolithography has made diagnosis and treatment planning a lot easier and operator friendly. Three-dimensional imaging of the malignancy and planning for rehabilitation through autogenous grafts have taken a leap with the help of stereolithography. It has also been assimilated into dental implants by proper planning, placement, and

rehabilitation of implant-supported dental prosthesis. Many of the medical conditions and situations demand a multidisciplinary team approach in which skills and expertise of maxillofacial surgeons can play an integral part such as access osteotomies,^[12] surgical resection and rehabilitation of facial pathologies, harvesting and fixation of vascular flaps, robotic surgery, navigational surgery,^[13,14] zygomatic implants, lasers,^[15] rehabilitation through distraction osteogenesis, surgical correction of facial defects, skull-based surgeries, and facial reanimations. The Federal Dentistry Board recognized OMFS as a dental specialty in the mid-1960s, and since then, a lot of development has occurred. The specialists trained in maxillofacial surgery understand biomechanics of facial harmony and the concept of occlusion compared to any other medical specialty. Many of the specified conditions of maxillofacial complex are approached intraorally, thus making the outcome scar less increasing the patient compliance. These points substantiate the education that this field of surgery provides, and proper and adequate approaches should be planned and taken so that appropriate referrals can be made and patient convenience is enhanced.

The name “oral and maxillofacial surgery” is an unorthodox term and on the same context.

Amerally *et al.*^[9] had commented that it might be for this reason the specialty is not very acclaimed. They had also suggested a change to a simpler name. Laskin^[16] had contradicted the proposal saying that no name would completely descriptive and also replacing that the name would make it vulnerable to be adopted by some other specialties.^[17] The confinement of OMFS in dentistry rather than medicine and scarcity of publicity of the profession in media was attributed to be the causative factor for the lack of prominence within society by Hunter *et al.*^[10]

Established on the awareness level evaluated by the study, it is evident that we need to inform, educate, and update our GMPs, students, and the general public about the specialty so that the patients receive proper treatment and there are appropriate referrals in necessary cases. Being a part of medical dental and educational institutions, individuals should take initiatives and propagate the presence and advantages of the specialty.

In India, the Association of Oral and Maxillofacial Surgeons of India, which is the governing body of the maxillofacial society, is committed to the promotion of the specialty through its scientific deliberations and social causes.

The study is based on the feedbacks limited to the state of Odisha, India, and therefore, the results might not be

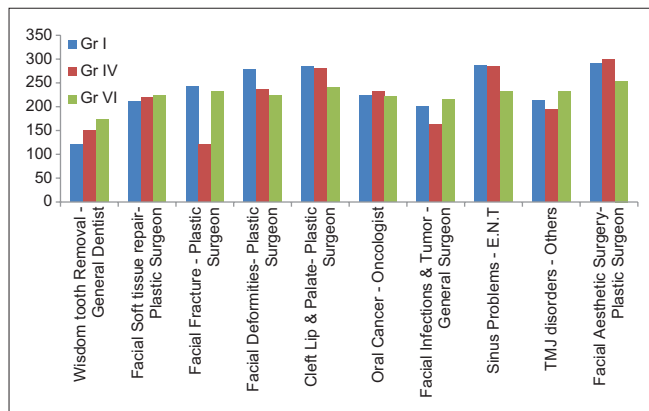


Figure 1: Representation of the feedback by the groups of GMP, MS, and GP in respect to electing medical specialties over OMFS to undergo treatment of the given clinical conditions

relevant elsewhere. We acknowledge that this does provide a significant bias in the data obtained from our survey. The focal point of the study is to explore the recognition and acceptability of the specialty of OMFS serve as a medium to educate the society.

CONCLUSION

The liability and responsibility of creating and improving the awareness and perception of our specialty lies on oral and maxillofacial surgeon. Unprecedented efforts at individual as well as global level will help achieve this goal.

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Conflicts of interest

There are no conflicts of interest.

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