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# Perception of Oral and Maxillofacial Surgery Specialty among Physicians in Sokoto, Northwest Nigeria

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## Abstract

**Background:** Oral and maxillofacial surgery (OMS) evolves from the anatomical region within the head and neck region. Contrary to common belief, its scope does not start and end with teeth. This study is to assess the awareness of physicians in Sokoto, Northwest Nigeria, about the scope of practice of OMS. **Materials and Methods:** This is a prospective cross-sectional study carried out during annual general meeting of the Nigerian Medical Association in Sokoto. This is the largest gathering of physicians in the state. Data were stored and analyzed using IBM SPSS Statistics for Windows version 20 (IBM Corp., Armonk, NY, USA) and results presented in simple descriptive statistics and frequencies only. **Results:** One hundred and twenty-five questionnaires of the 150 distributed were returned and analyzed with a response rate of 83.3%. The analysis showed that there is high awareness of the respondents about the scope of oral and maxillofacial surgeons (OMFS) in facial bone fracture, jaw deformities, orofacial tumors, and temporomandibular joint ankylosis (81.0%, 88.1%, 88.1%, and 82.5%) respectively. There is, however, low awareness about its scope in sinus problems, cleft lip and palate, and esthetic facial surgery (9.5%, 12.7%, and 14.3%) respectively. **Conclusion:** The awareness of the scope of OMS practices needs to be increased among physicians, especially in cleft lip and palate, sinus problems, and esthetic facial surgeries. It is imperative as OMFS specialty to raise awareness of our specialty among physicians.

**Keywords:** Awareness, oral and maxillofacial surgeon, oral and maxillofacial surgery, perception, physicians

## INTRODUCTION

Oral and maxillofacial surgery (OMS) is a specialty that is responsible for the diagnosis, clinical and surgical treatment of tumors, traumatic, congenital, developmental lesions, and infection in the maxillofacial complex. The first indigenous OMFS by examination in Nigeria came on board in 1985.<sup>[1]</sup> Since then, OMFS has continued to be produced, and currently, there is a little <100 OMFS serving a population of over 170 million. Studies have shown that the general public in other countries has a low awareness concerning OMS, other studies have identified similar trend among physicians.<sup>[2-5]</sup> It is important that physicians should have knowledge and understanding about the scope of the specialty for appropriate referral and optimal patients' management.<sup>[6]</sup> There is paucity of such study in Nigeria, especially Northwest region, hence the present study aimed at finding out the awareness among physicians about the specialty of OMS and to identify clinical conditions in which medical colleagues may misjudge the role of an OMFS in Sokoto, extreme Northwest Nigeria.

## MATERIALS AND METHODS

This prospective cross-sectional study was conducted in Sokoto, Northwest Nigeria, to assess the current awareness levels of the specialty of OMS in Nigeria. One hundred and fifty validated questionnaires [Table 1] were distributed during the opening ceremony and scientific sessions of the 5<sup>th</sup> Annual General Meeting and Scientific Conference, Nigerian Medical Association, Sokoto State branch in July 2016. Study duration was 3 days. This conference is the largest gathering of physicians in the state. Inclusion criteria were participants that are house officers, medical officers, registrars and consultants, whereas nurses, other paramedical professionals, and guests were excluded.

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## Statistical analysis

Data were stored and analyzed using IBM SPSS Statistics for Windows Version 20 (IBM Corp., Armonk, NY, USA). Results were presented as simple descriptive statistics and frequencies. A  $P < 0.05$  was considered statistically significant.

## RESULTS

One hundred and twenty-five questionnaires of the 150 distributed were returned and analyzed with a response rate of 83.3%. The analysis showed that there is high awareness of the respondents about the scope of OMFS in jaw deformities, orofacial tumors, temporomandibular joint (TMJ) ankylosis, and facial bone fracture (88.1%, 88.1%, 82.5%, and 81.0%), respectively [Table 2]. There is, however, low awareness level about its scope in sinus problems, cleft lip and palate, and esthetic facial surgery (9.5%, 12.7%, and 14.3%), respectively [Table 2]. Salivary gland diseases management between the OMFS and the ENT surgeons showed a balanced response rate (43.7% and 37.3%), respectively [Table 2]. Responses from the physicians as to which other specialties are preferred to OMFS in management of these conditions are shown in Table 3.  $P$  values and confidence intervals are presented in Table 4.

## DISCUSSION

The OMS specialty serves as a link between medical and dental fields in resolving many clinical problems in the head and neck regions.<sup>[7]</sup> The OMFS is perceived as a “surgeon” by the dental professionals while they are thought of as dentists by the medical professionals.<sup>[8]</sup> The specialty of OMS is still immature despite its 30 years of existence in Nigeria, especially Northwest Nigeria where the only dental school is still at infancy. Since the formation of the American Association of Oral and Maxillofacial Surgeons in 1918, the scope of the specialty has continued to evolve from oral surgery to craniofacial surgery with services ranging from complex facial reconstruction following tumor ablation using local flaps and microvascular free tissue transfer, cleft lip/palate repair, facial infection management, salivary gland surgery, skeletal deformities of the craniofacial region including TMJ disorders, esthetic facial surgery, and rhinoplasty.<sup>[2,7,9]</sup>

Despite this evolution over the past 90 years, physicians and the general public are still unaware of its scope.<sup>[7]</sup> In Africa, especially Sub-Saharan, awareness is low, probably because of very few dental schools. Vadepally *et al.*<sup>[10]</sup> have reported a similar lack of awareness in Hyderabad in India. It is important

**Table 1: Questionnaire on perception of scope of oral and maxillofacial surgery**

Patients complaints	Orthopedic surgeon, n (%)	ENT surgeon, n (%)	Plastic surgeon, n (%)	Oral maxillofacial surgeon, n (%)	General dentist, n (%)	General surgeon, n (%)	Family physician, n (%)	Don't know, n (%)
Third molar removal								
Facial bone fracture								
Jaw deformities								
Salivary gland diseases								
Cleft lip/palate								
Orofacial Tumors								
Facial infection								
Sinus problems								
Temporomandibular joint ankylosis								
Esthetic face surgery								

Please tick only one specialty you think is appropriate to treat the patients complaints. ENT: Ear nose and throat

**Table 2: Response to questionnaire by physicians (125 respondents)**

Patients complaints	Orthopedic surgeon, n (%)	ENT surgeon, n (%)	Plastic surgeon, n (%)	Oral maxillofacial surgeon, n (%)	General dentist, n (%)	General surgeon, n (%)	Family physician, n (%)	Don't know, n (%)
Third molar removal	0	1 (0.8)	0	55 (43.7)	65 (51.6)	2 (1.6)	1 (0.8)	2 (1.6)
Facial bone fracture	9 (7.1)	3 (2.4)	8 (6.3)	102 (81.0)	2 (1.6)	1 (0.8)	0	1 (0.8)
Jaw deformities	1 (0.8)	1 (0.8)	10 (7.9)	111 (88.1)	2 (1.6)	0	0	1 (0.8)
Salivary gland diseases	0	47 (37.3)	1 (0.8)	55 (43.7)	6 (4.8)	13 (10.3)	1 (0.8)	0 (0.0)
Cleft lip/palate	0	6 (4.8)	103 (81.7)	16 (12.7)	0	0	0	1 (0.8)
Orofacial tumors	0	7 (5.6)	3 (2.4)	111 (88.1)	2 (1.6)	2 (1.6)	0	1 (0.8)
Facial infection	0	11 (8.7)	18 (14.3)	75 (59.5)	5 (4.0)	13 (10.3)	2 (1.6)	2 (1.6)
Sinus problems	0	104 (82.5)	5 (4.0)	12 (9.5)	1 (0.8)	2 (1.6)	0	2 (1.6)
Temporomandibular joint ankylosis	14 (11.1)	3 (2.4)	1 (0.8)	104 (82.5)	2 (1.6)	1 (0.8)	1 (0.8)	1 (0.8)
Esthetic face surgery	0	23 (18.3)	83 (65.9)	18 (14.3)	0	0	0	2 (1.6)

ENT: Ear nose and throat

that the general public and physicians are aware of the scope of OMS because an informed health-care professional will refer to the appropriate specialist which will lead to efficient delivery of quality health-care services.<sup>[3,7]</sup>

This study demonstrated that >80% of the physicians in the region are aware of the role of OMFS in the treatment of facial bone fracture management [Figure 1]. These findings have been reported by Rocha *et al.*<sup>[6]</sup> and Jarosz *et al.*<sup>[7]</sup> in Brazil and New Jersey, respectively. In contrast, Vadepally *et al.*<sup>[10]</sup> in India reported low awareness (14%)

**Table 3: Physicians who preferred other specialists to treat the complaints**

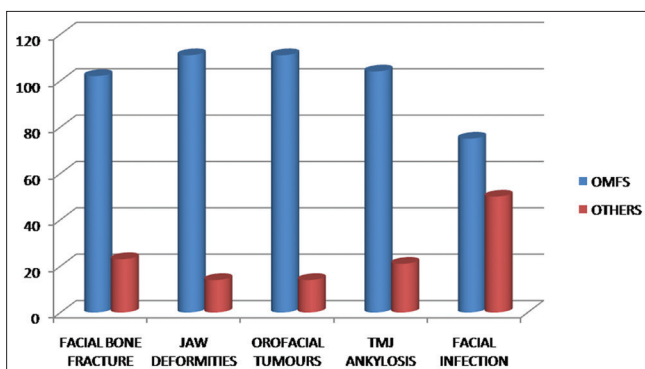
Patients complaints	Other professionals	n (%)
Third molar/wisdom tooth removal	General dentist	65 (51.6)
Facial bone fracture	Orthopedic surgeons	9 (7.1)
Jaw deformities	Plastic surgeons	10 (7.9)
Salivary gland diseases	ENT surgeons	47 (37.3)
Cleft lip/palate	Plastic surgeons	103 (81.3)
Oral malignancy	ENT surgeons	7 (5.6)
Facial infection	Plastic surgeons	18 (14.3)
Sinus problems	ENT surgeons	104 (82.5)
Temporomandibular joint ankylosis	Orthopedic surgeons	14 (11.1)
Esthetic face surgery	Plastic surgeons	83 (65.9)

ENT: Ear nose and throat

**Table 4: Level of significance (P value) and confidence interval**

Clinical conditions	P	CI
Third molar removal	0.247	0.44±0.044
Facial bone fracture	<0.001	0.81±0.035
Jaw deformities	<0.001	0.88±0.029
Salivary gland diseases	0.181	0.44±0.044
Cleft lip/palate	<0.001	0.13±0.030
Orofacial tumors	<0.001	0.88±0.029
Facial infection	0.040	0.60±0.044
Sinus problems	<0.001	0.10±0.027
Temporomandibular joint ankylosis	<0.001	0.83±0.011
Esthetic face surgery	<0.001	0.14±0.031

CI: Confidence interval



**Figure 1: High awareness of scope of OMFS**

where the casualty refers oral and maxillofacial cases to other physicians. We opined that this may be due to the high involvement of the specialty in Sokoto in both clinical and academic activities.<sup>[11-13]</sup>

Jaw deformities pose a great challenge to the surgeon because orthognathic surgical procedures may be required in correcting such facio-dental abnormalities. This complex surgical procedure requires a multidisciplinary approach to include orthodontists, periodontologists, and prosthodontists. The OMFS will mostly be qualified to give the patient a good esthetic outcome and at the same time securing good occlusion for mastication. Our finding revealed that there is a high awareness of the strategic role of OMFS in managing this condition (88.1%). This is in contrast to other studies where there is a lack of awareness as the physicians will prefer plastic surgeons to handle such cases.<sup>[3,10]</sup>

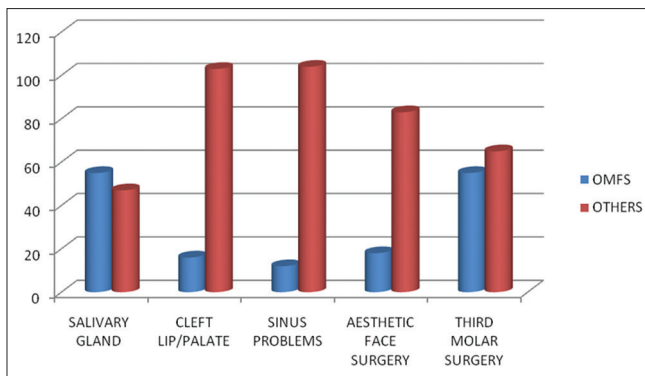
The current study also highlighted high (88.1%) preference for OMFS in managing oral tumor contrary to the study by Al-khatib *et al.*<sup>[14]</sup> in Saudi Arabia where there is low awareness. Despite this high awareness among physicians, patients still present at advanced stage of the tumor. We speculate that presentation to unorthodox traditional practitioners in this region might be a contributing factor to this late presentation. Furthermore, ignorance on the part of patients and relatives about whether there are specialists that can manage such conditions can lead to late presentation.

It is also interesting to know that many of the respondents are aware of the role of OMFS in the management of TMJ ankylosis (82.5%). This finding is in contrast to Vadepally *et al.*<sup>[10]</sup> where there is low awareness. The TMJ is a complex joint with many associated structures, whose symptoms are diverse in terms of location.

In facial infection management, the present study showed a moderate awareness (59.5%). This is contrary to study in India where ENT, plastic surgeons, and general surgeons are preferred due to the fact that these three specialities were also responsible for treatment of facial infection in the past.<sup>[10]</sup> Most of facial space infections are secondary to odontogenic origin and its sequelae, hence the high involvement of the OMFS.<sup>[15]</sup> This response rate in the present study is not surprising as the physicians are aware of the active role of OMFS in facial infection management in this region.<sup>[15-18]</sup>

The finding of this study also revealed preference for management of salivary gland lesions by OMFS (43.7%). This might be attributed to the success track record of the specialty in optimally managing such cases generally.<sup>[19-21]</sup>

However, the study observed that the physicians lack awareness about OMS specialty, especially in management of cleft lip and palate, sinus problems, and esthetic facial surgery [Figure 2]. This poor recognition of the scope of OMS specialty by the physicians has been consistent with other studies.<sup>[2-4,22]</sup> Cleft lip and palate management involve multidisciplinary approach spanning through neonatal period



**Figure 2:** Low awareness of scope of OMFS

to early adulthood. OMFS traditionally has played a vital role in the correction of dentofacial deformity.

It is intriguing that in this research most physicians would prefer a general dentist (51.6%) to extract the third molar than OMFS (43.7%). This may be due to the fact that most of them are unaware that the OMFS is better suited for management of this condition that is intensely trained and can give satisfactory treatment.<sup>[10]</sup>

This study has highlighted the perceived awareness of the scope of OMS in Northwest Nigeria, however, because the study was conducted only in the northwest region of Nigeria, it may not represent the perceived scope of the entire physicians in Nigeria. Furthermore, there may be deliberate miss information by the respondents.

It is also interesting to note that this study has made known ENT and plastic surgeons to be the greatest competitor in the management of cases closely related to the scope of the OMS. A future research direction is to compare the awareness of physicians about the scope of OMS to that of the general public in other regions of Nigeria.

To the best of our knowledge, no study has been carried out on perception of scope of OMS in Nigeria where there could be basis for comparison; however, this study will serve as a baseline study where future research can be based on. Furthermore, more studies need to be carried out in other regions of Nigeria, especially where there are many oral and maxillofacial surgeons.

## CONCLUSION

The current study demonstrated a high-level awareness among physicians in the northwest region of Nigeria on the leading role of OMFS in managing facial bone fracture, facial infections, jaw deformities, orofacial tumors, and TMJ ankylosis. However, there is serious need to increase awareness among physicians in other conditions such as cleft lip and palate management, sinus problems, and esthetic facial surgeries. Hence, to achieve this objective, we recommend expansion of medical curriculum to incorporate OMS posting during training. In addition, establishment of dental schools

in all existing medical schools will further increase awareness of this noble speciality. Furthermore, there is need to sustain and increase awareness regarding the wide scope of work performed by the OMFS through advertisement, conferences, and workshops.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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