



Research Article

Surgical demands of patients attending an Oral and Maxillofacial Surgery clinic in a Nigerian Hospital

Ekaniyere Benlance Edetanlen¹, Birch Dauda Saheeb¹

¹Department of Oral and Maxillofacial Surgery, University of Benin Teaching Hospital, Benin, Edo, Nigeria.



*Corresponding author:

Ekaniyere Benlance Edetanlen,
Department of Oral and
Maxillofacial Surgery,
University of Benin Teaching
Hospital, Benin, Edo, Nigeria.
ehiben2002@yahoo.com

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ABSTRACT

Objectives: Reports on most performed oral and maxillofacial surgical procedures (OMSPs) are scarce globally. This study aimed to determine the pattern of surgical demands of patients attending oral and maxillofacial surgery services at the University of Benin Teaching Hospital, Edo State, Nigeria. **Materials and Methods:** A retrospective study was conducted on patients managed in the Department of Oral and Maxillofacial Surgery from March 2011 to April 2021. Data were collected from theatre logbooks and case notes of patients who had surgery. The data collected were the age of patients, gender, employment status, educational status, residential distance to the hospital, and type of surgery performed. Descriptive statistics were done using the IBM Statistical Package for the Social Sciences statistics for Windows version 20 (Armonk, NY: IBM Corp) software. **Results:** A total number of 550 patients were seen in the ten-year study period. The age of the patients ranges between 2 and 97 years. The mean age was 23.5 ± 2.08 years. More than half (55.6%) of the patients were male. The highest (47.1%) number of patients that had OMSP had only primary education, followed by tertiary education (25.1%), secondary (17.8%), and no formal education (10.0%). Cleft lip and palate repairs were the most common surgical demands (34.5%), followed by mandibulectomy, open reduction, and fixation. The least surgical demands were neck dissections (0.36%), and none (0.0%) of the patients had cosmetic surgery. **Conclusion:** The most common surgical demand by patients was cleft lip and palate repairs, while neck dissection was the least common demand, respectively.

Keywords: Surgical demand, Oral, Maxillofacial, Surgery

INTRODUCTION

Oral and maxillofacial surgery (OMFS) is the surgical specialty that is concerned with the diagnosis and treatment of diseases affecting the mouth, jaws, face, and neck.^[1] Oral and maxillofacial surgical procedures (OMSPs) range from simple tooth extraction to ablative surgeries such as resection with disarticulation of the mandible.^[2] It also encompasses soft- or hard-tissue surgical procedures.^[3] OMSPs done under general anesthesia (GA) and local anesthesia (LA) are known as major and minor OMSPs, respectively.^[4,5] While some surgical procedures are routinely performed in developing countries, others can be regarded as luxuries due to a lack of expertise and facilities.^[6] As healthcare provision continues to improve and the demands on the available facilities increase, the need for evaluating existing health systems to improve their efficiency becomes more challenging.^[7] Such evaluation plays a key role in improving service delivery and enabling informed distribution of resources.^[8] To achieve this, there is often a

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need to assess the demands being placed on the system, the challenges being experienced, and the successes being accomplished. A retrospective review of surgical services provided is one of the ways of ensuring optimal or improved service delivery.^[9,10] Evaluation of the pattern of demands of OMFS will play a very important role in policy formulation, research, improvement in service delivery, teaching, and mentoring while also enabling prioritization and proper allocation and distribution of limited resources, especially in resource-limited countries.^[11,12]

Previous literature reports^[13-20] are conflicting regarding the most performed OMSPs globally. Therefore, this study aims to determine the pattern of OMSPs demanded by patients attending a Nigerian teaching hospital. It is hoped that the findings of this study will assist oral and maxillofacial surgeons in the appropriation of limited resources for optimum treatment outcomes and assist in the growth of oral and maxillofacial surgery in developing countries.

MATERIALS AND METHODS

This is a retrospective and cross-sectional study of patients managed in the Department of Oral and Maxillofacial Surgery from March 2011 to April 2021. The inclusion criteria were all in-patients treated under GA, while those with incomplete information were excluded. Data were retrieved from theater logbooks and patients' case notes for surgery. The data collected were the age of patients, gender, employment status, educational status, distance of residential address, and type of surgery done. Descriptive statistics were performed using the IBM Statistical Package for the Social Sciences statistics for Windows version 20 (Armonk, NY: IBM Corp) software.

RESULTS

A total number of 550 patients were seen in the ten-year study period. The age of the patients ranges between 2 and 97 years. The mean age was 32.5 ± 2.08 years. Table 1 shows the sociodemographic characteristics of patients who have undergone oral and maxillofacial surgery. Patients with age >60 years had less (7.7%) demand for oral and maxillofacial surgery compared to those with age <60 years that needed greater (50.5%) demand for services. About one-third (41.8%) of the patients who required oral and maxillofacial surgery were <17 years. More than half (55.6%) of the patients were male. As shown in Table 1, the demands of major oral and maxillofacial surgery were greatest among the dependent patients (55.5%), and this was followed by the employed (18.2%) and self-employed (15.6%). The highest (47.1%) number of patients that had oral and maxillofacial surgical services had only primary education, followed by tertiary education (25.1%), secondary (17.8%), and

Table 1: Sociodemographic characteristics of patients that underwent oral and maxillofacial surgery in UBTH from March 2011 to April 2021 ($n=550$).

Variables	Category	Frequency	Percent
Age range (years)	≤17	230	41.8
	<60	278	50.5
	≥60	42	7.6
Gender	Male	306	55.6
	Female	244	44.0
Employment status	Employed	100	18.2
	Self-employed	86	15.6
	Unemployed	59	10.7
Educational status	Dependent	305	55.5
	None	55	10.0
	Primary	259	47.1
Residential distance	Secondary	98	17.8
	Tertiary	138	25.1
	Within Edo state	147	26.7
	Outside Edo state	403	73.3

UBTH: University of Benin Teaching Hospital

no formal education (10.0%). Almost two-thirds (73.3%) of the patients utilizing oral and maxillofacial surgical services reside outside Edo state. Table 2 shows the clinical characteristics of patients who had oral and maxillofacial surgery. Cleft lip and palate repairs were the most common surgical demands (34.5%), followed by mandibulectomy and open reduction and fixation. The least surgical demands were neck dissections (0.36%), and none (0.0%) of the patients had cosmetic surgery.

DISCUSSION

Oral and maxillofacial surgery (OMFS) is a specialty that treats a wide spectrum of diseases, injuries, and defects affecting the head, neck, jaw bones, face, and the hard and soft tissues of the oral cavity.^[1] The department in our hospital manages patients referred from healthcare facilities in Edo state as well as the neighboring states that lack the necessary skilled professionals, facilities, and resources to manage them. This study provides data on both current and prospective patients who had a wide range of services that are available in the institution. It is hoped that it would also guide the appropriate use of resources so that the more frequently performed OMFS procedures could be determined and the allocation of funding and resources could be achieved more appropriately. The department deals with a large number of patients with maxillofacial trauma, oral cancers, tumors, cysts, salivary gland disorders, infective disorders, and developmental anomalies. In 10 years, the total number of patients that demanded the services of oral and maxillofacial surgeons in the department was 550, which gives a surgical procedure volume of 55 patients yearly. A previous report^[6]

Table 2: Clinical characteristics of patients that underwent oral and maxillofacial surgery in UBTH from 2011 to 2021($n=550$).

Variables	Category	Frequency	Percentage
OMFS services	Cleft lip and palate repairs	190	34.5
	Mandibulectomy	132	24.0
	ORIF	98	17.8
	Reconstruction surgery	52	9.50
	Maxillectomy	36	6.50
	Salivary gland surgery	31	5.70
	Pre-prosthetic surgery	5	0.91
	TMJ surgery	4	0.73
	Neck dissection	2	0.36
	Cosmetic surgery	0	0.00

OMFS: Oral and maxillofacial surgery; TMJ: Temporomandibular joint; ORIF: Open reduction and internal fixation, UBTH: University of Benin Teaching Hospital

had indicated this volume of patients to be high. Surgical procedure volume is defined as the number of patients receiving a specific procedure in the hospital each year.^[21] From the March 2011 to April 2021 periods under review, none of the patients was discharged against medical advice preoperatively, which further confirms the high volume of patients treated at the center.

The mean age of patients who mostly sought oral and maxillofacial services was 32.5 ± 2.08 years. This is comparable to that reported in the previous studies.^[16,17] The reason for the peak of oral and maxillofacial procedures in this decade of life could be related to their involvement in daily activities.^[12] More males demanded OMSPs than females. This finding is similar to that reported in the previous studies.^[2-4] The reason for this finding is probably related to the fact that females seek medical attention than males.^[5] Patients whose source of living solely depended on their guardians or parents mostly sought oral and maxillofacial surgery services for palatoplasty and cheiloplasty at the center.^[17] The effect of educational status on oral and maxillofacial surgery demand was also evaluated, and we found that patients with a primary level of education demanded oral and maxillofacial surgical services more compared to other levels of education. It could be deduced that patients with high educational backgrounds seek medical attention earlier, and this can reduce their demand for debilitating major surgical procedures.^[7]

Cleft lip and palate repairs were the most common surgical procedures performed, which agrees with a similar finding reported in a previous study^[18] but differs from those that reported mandibulectomy^[19] and open reduction and internal fixation^[20] as the most performed procedures. The availability of experts and facilities could be the reason for this variation.

This study has some limitations, as some relevant data must have been missed due to its retrospective nature. Since procedures under LA were not considered, a further study

on the pattern of minor oral and maxillofacial procedures is recommended.

CONCLUSION

The most common surgical demands by patients were cleft lip and palate repairs, while neck dissection was the least common demand, respectively

Ethical approval

The Institutional review board approval is not required.

Declaration of patient consent

Patient's consent was not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

REFERENCES

1. Ndukwe KC, Aregbesola SB, Ikem IC, Ugboko VI, Adebisi KE, Fatusi OA, *et al.* Reconstruction of mandibular defects using nonvascularized autogenous bone graft in Nigerians. *Niger J Surg* 2014;20:87-91.
2. De Bree R, Takes RP, Shah JP, Hamoir M, Kowalski LP, Robbins KT, *et al.* Elective neck dissection in oral squamous cell carcinoma: Past, present and future. *Oral Oncol* 2019;90:87-93.
3. Okoturo E, Osasuyi A. Clinical outcome of parotidectomy with reconstruction: Experience of a regional head and neck cancer unit. *Niger J Surg* 2016;22:26-31.
4. Carter JB, Stone JD, Clark RS, Mercer JE. Applications of cone-beam computed tomography in oral and maxillofacial surgery: An overview of published indications and clinical usage in United States academic centers and oral and maxillofacial surgery practices. *J Oral Maxillofac Surg* 2016;74:668-79.
5. Osman MK, Aljezoli MI, Alsadig MM, Suliman AM. Referral pattern of oral and maxillofacial surgery cases in Sudan: A retrospective age-and sex-specific analysis of 3,478 patients over four years. *PLoS One* 2021;16:e0249140.
6. Olusanya AA, Adeleye AO, Aladelusi TO, Fasola AO. Updates on the epidemiology and pattern of traumatic maxillofacial

- injuries in a Nigerian university teaching hospital: A 12-month prospective cohort in-hospital outcome study. *Craniofacial Trauma Reconstr* 2015;8:50-8.
7. Ajayi OF, Olawuyi A, Anunobi CC, Bamgbose BO, Adeyemo WL. Clinicopathologic audit of salivary gland lesions. *Niger J Basic Sci* 2017;14:101-4.
 8. Dalmao O, Dempster L, Caminiti MF, Blanas N, Lam DK. Public and professional perceptions of the scope of practice of oral and maxillofacial surgeons. *J Oral Maxillofac Surg* 2021;79:18-35.
 9. Bassey GO, Osunde OD, Anyanечи CE. Analysis of 46 cases of malignant jaw tumours in Calabar, Nigeria. *Niger Med J* 2015;56:240-3.
 10. Lawal AO, Adisa AO, Effiom OA. A review of 640 oral squamous cell carcinoma cases in Nigeria. *J Clin Exp Dent* 2017;9:e767-71.
 11. Akadiri OA. Evolution and trends in reconstructive facial surgery: An update. *J Maxillofac Oral Surg* 2012;11:466-72.
 12. Bello SA, Osodin T, Oketade I, Ibikari AB, Ighile N, Enebong DJ, *et al.* Pattern of maxillofacial surgical conditions in North Central Nigeria: A 5-year experience of an indigenous surgical mission. *Niger J Clin Pract* 2017;20:1283-8.
 13. Adeyemo WL, Ladeinde AL, Ogunlewe MO, James O. Trends and characteristics of oral and maxillofacial injuries in Nigeria: A review of the literature. *Head Face Med* 2005;1:7.
 14. Ibikunle AA, Taiwo AO, Braimah RO. A 5-year audit of major maxillofacial surgeries at Usmanu Danfodiyo university teaching hospital, Nigeria. *BMC Health Serv Res* 2018;18:416.
 15. Ajike SO, Arotiba JT, Adebola RA, Ladehinde A, Amole IO. Spectrum of oral and maxillofacial surgical procedures in Kano, Nigeria. *West Indian Med J* 2005;54:325-8.
 16. Islam MA, Haider IA, Uzzaman MH, Tymur FR, Ali MS. One year audit of in patient department of oral and maxillofacial surgery, Dhaka Dental College Hospital. *J Maxillofac Oral Surg* 2016;15:229-35.
 17. Okoro NN, Egbor PE. Surgical audit of major oral and maxillofacial cases in a tertiary hospital in South-South Nigeria - a 5-year retrospective review. *Saudi J Oral Dent Res* 2021;6:22-8.
 18. Adebayo ET, Ajike SO, Abite MG. Audit of oral and maxillofacial surgical conditions seen at Port Harcourt, Nigeria. *Ann Afr Med* 2008;7:29-34.
 19. Gbotolorun OM, Emeka CI, Effiom O, Adewole RA, Ayodele AS. An audit of malignant oro-facial tumors presenting at a tertiary hospital in Lagos. *Ann Med Health Sci Res* 2016;6:133-6.
 20. Rehmann B, Din QU. Two-year audit of maxillofacial surgery department at Khyber college of dentistry, Peshwer. *Pak Oral Dent J* 2009;29:13-8.
 21. Schmidt CM, Turrini O, Parikh P, House MG, Zyromski NJ, Nakeeb A, *et al.* Effect of hospital volume, surgeon experience, and surgeon volume on patient outcomes after pancreaticoduodenectomy: A single-institution experience. *Arch Surg* 2010;145:634-40.

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