AWARENESS OF ORAL AND MAXILLOFACIAL SURGERY SPECIALTY AMONG MEDICAL STUDENTS OF A TERTIARY CARE CENTRE: A DESCRIPTIVE CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction

Oral and maxillofacial surgery is a relatively young surgical specialty with roots in dentistry and medicine. It has expanded with time from simple extraction of the tooth to the reconstruction of the facial deformity using microvascular free tissue transfer.

Objectives

To find out prevalence of awareness of oral and maxillofacial surgery specialty among medical students of Birat Medical College and Teaching Hospital, Nepal.

Methodology

A descriptive cross-sectional study was conducted from 1 September 2020 to 30 September 2020. A total of 100 medical students were chosen by convenience sampling method. A semi-structured questionnaire was developed in Google forms and sent to study participants through an internet link to assess the awareness of oral and maxillofacial surgery specialty. Data were analysed by Statistical Package for Social Sciences version 22.

Result

The data showed that 81 (81%) of medical students have heard of oral and maxillofacial surgery specialty. Most of the students expected oral and maxillofacial surgeon for treatment of fracture of the lower jaw [86(86%)], upper jaw [89(89%)] and cheekbone [91(91%)]. Many students expected oral and maxillofacial surgeons to treat tumours of jaws [78(78%)], cysts of jaws [77(77%)], temporomandibular joint disorders [74(74%)]. Few students expected oral and maxillofacial surgeon for dental implants [16(16%)] and lip repositioning surgery [4(4%)].

Conclusion

The majority of medical students have heard of Oral and maxillofacial specialty; however, they are not fully aware of the expertise and potentiality of the specialty.

KEYWORDS

Awareness; Medical students; Oral and maxillofacial surgery.

INTRODUCTION

Oral and maxillofacial surgery (OMFS) is a relatively young surgical specialty with roots in dentistry and medicine.[1] It has developed over the last 80-90 years from a group of dental practitioners who were treating patients with facial fractures in collaboration with plastic surgeons to the specialty of today.[2]

In Nepal to qualify as an oral and maxillofacial surgeon, one needs to have a dental undergraduate degree known as Bachelor of Dental Surgery (BDS) which is five and half years course, followed by a three years master's program known as Master of Dental Surgery (MDS) in oral and maxillofacial surgery. In most of Asian, South American, Central American and some European countries it is dentally based, however in some European countries, the United Kingdom and the United States of America one needs to have both medical and dental undergraduate degrees followed by training in oral and maxillofacial surgery.[3]

According to the International Association of Oral and Maxillofacial Surgeons, OMFS is "the surgical specialty that includes the diagnosis, surgical and related treatments of a wide spectrum of diseases, injuries, defects and aesthetic aspects of the mouth, teeth, jaws, face, head and neck".[4] It has expanded with time to include cases of simple extraction of the tooth to the management of complex congenital craniofacial deformities. Maxillofacial trauma, facial infection and pathologies, temporomandibular joint disorders, salivary gland pathologies, neuralgias, orthognathic surgery, cleft lip and palate, distraction osteogenesis, oral cancers and reconstruction of the facial deformity using local flaps and microvascular free tissue transfer are managed by maxillofacial surgeons. Significant progress has been made in the specialty of OMFS however medical faculties are less aware of the OMFS specialty compared to dental faculties as they have less exposure and experience during their student life. Lack of awareness of OMFS has often led to difficulties in referral and compromise in the quality of care required for patients. There is no data regarding a similar study in Nepal.

The objective of this study was to find out the prevalence of awareness of Oral and maxillofacial surgery specialty among medical students of Birat Medical College and Teaching Hospital, Nepal.

METHODOLOGY

A descriptive cross-sectional study was conducted from 1st September 2020 to 30th September 2020 at Birat Medical College and Teaching Hospital after taking approval from the Institutional Review Committee. Web-based informed consent was taken from each participant before the study. A total of 100 medical students studying Bachelor of Medicine, Bachelor of Surgery (MBBS) at Birat Medical College and Teaching Hospital were chosen by convenience sampling method based on study done by Subhash Raj et al in India.[5] Students were divided into two groups based on their level of study as first-year and fourth-year students so that comparison can be made as well. The first fifty responses from each group were included in the study.

First-year and fourth-year students studying MBBS at Birat Medical College were included in the study. Second-year, third-year, and interns were excluded from the study.

A semi-structured questionnaire was developed on Google form based on similar studies done in the various parts of the world.[2,5-10] Questionnaire internet link was sent to participants through one of the social media(Facebook). This questionnaire was designed with two parts. In the first part, the participants were asked whether they had heard of the specialties of Ear, Nose and Throat (ENT), Plastic surgery, Oral and Maxillofacial Surgery (OMFS), and Periodontology. The second part contained 20 clinical situations including trauma, pathology, reconstructive surgery, and cosmetic surgery. The participants were asked "Which surgeon would you expect to treat for the following conditions?" and it had four different specialists, ENT surgeon, Plastic surgeon, Oral and maxillofacial surgeon and Periodontist as an option. Microsoft Excel 2013 was used for data entryand analysed by Statistical Package for Social Sciences (SPSS) version 22.

RESULTS

The responses of the medical students' are shown in tables 1 and 2. The prevalence of awareness of OMFS specialty was 81% (81). More than half of first-year students [33(66%)] and 48 (96%) of fourth-year students have heard of oral and maxillofacial specialty (Table 1).

More than half of the students [(68) (68%)]expected a plastic surgeon to treat a cut on the face (Table 2). Most of the students [(86 -91) (86% - 91%)]expected oral and maxillofacial surgeon for treatment of fractures of the lower jaw, upper jaw and cheekbone. Regarding the pathology part, the oral and maxillofacial surgeon was preferred for the management of tumours of the jaw, cysts of the jaw, Temporomandibular joint (TMJ) disorders by most of the students [(74-78) (74% - 78%)].

Table 1: Students' awareness of different specialities (n=100)

Specialities	ENT n (%)		Plastic Surgery n (%)		Oral and Maxillofacial Surgery n (%)		Periodontology n (%)	
Number of students	92 (92)		97 (97)		81(81)		77 (77)	
	First year	Fourth year	First year	Fourth year	First Year	Fourth Year	First Year	Fourth year
	42(84)	50 (100)	47 (94)	50 (100)	33 (66)	48(96)	30 (60)	47 (94)

Table 2: Prevalence of students' responses on surgeon they would expect to treat for the following conditions (n=100)

	ENT Surgeon n (%)	Plastic Surgeon n (%)	Oral and Maxillofacial Surgeon n(%)	Periodontist n (%)
Trauma				
Cut on the face	3(3)	68(68)	29(29)	0
Fracture of lower jaw	1(1)	1(1)	86(86)	12(12)
Fracture of upper jaw	3(3)	1(1)	89(89)	7(7)
Fracture of cheekbone	4(4)	3(3)	91(91	2(2)
Fracture of nasal bone	90(90)	3(3)	6(6)	1(1)
Pathology				
Tumours of jaw	7(7)	0	78(78)	15(15)
Cysts of jaw	2(2)	3(3)	77(77)	18(18)
TMJ disorders	20(20)	1(1)	74(74)	5(5)
Facial space infection	23(23)	27(27)	44(44)	6(6)
Removal of salivary gland	56(56)	2(2)	38(38)	4(4)
Reconstructive Surgery				
Sinus lift surgery	56(56)	7(7)	28(28)	9(9)
Child with cleft lip	10(10)	50(50)	37(37)	3(3)
Child with cleft palate	15(15)	33(33)	46(46)	6(6)
Difficulty breathing in the nose	97(97)	1(1)	2(2)	0
Dental implants	0	1(1)	16(16)	83(83)
Cosmetic Surgery				
Cosmetic surgery of nose	13(13)	83(83)	4(4)	0
Appearance of the face	0	91(91)	9(9)	0
Appearance of the jaw	2(2)	28(28)	59(59)	11(11)
Scar revision of the face	0	95(95)	4(4)	1(1)
Lip repositioning	2(2)	81(81)	13(13)	4(4)

For the reconstructive surgery part, half of the students [50(50%)] expected a plastic surgeon to treat cleft lip but for cleft palate 46% (46) expected oral and maxillofacial surgeon to treat the same followed by plastic surgeon [33%(33)]. Majority of the students [83(83%)] preferred periodontists for dental implants and only few students expected oral and maxillofacial surgeons for placement of dental implants [16(16%)]. Most of the students preferred a plastic surgeon for the majority of cosmetic surgery parts such as cosmetic surgery of the nose [83(83%)], surgery of appearance of the face [91(91%)], scar revision of the face [95(95%)] and lip repositioning [81(81%)].Only four (4%) expected oral and maxillofacial surgeon for lip repositioning surgery. The oral and maxillofacial surgeon was expected to perform surgery for the appearance of the jaw by more than half of students [59(59%)].

Table 3: Prevalence of group wise students' responses on surgeon they would expect to treat for the following conditions (n=50)

	ENT Surgeon n (%)		Plastic Surgeon n (%)		Oral and Maxillofacial Surgeon n(%)		Periodontist n (%)	
	First Year	Fourth Year	First Year	Fourth Year	First Year	Fourth Year	First Year	Fourth Year
Trauma								
Cut on the face	2(4)	1(2)	38(76)	30(60)	10(20)	19(38)	0	0
Fracture of lower jaw	0	1(2)	1(2)	0	39(78)	47(94)	10(20)	2(4)

Fracture of upper jaw	2(4)	1(2)	1(2)	0	42(84)	47(94)	5(10)	2(4)
Fracture of cheekbone	4(8)	0	2(4)	1(2)	43(86)	48(96)	1(2)	1(2)
Fracture of nasal bone	45(90)	45(90)	2(4)	1(2)	2(4)	4(8)	1(2)	0
Pathology								
Tumours of jaw	0	7(14)	0	0	40(80)	38(76)	10(20)	5(10)
Cysts of jaw	0	2(4)	2(4)	1(2)	38(76)	39(78)	10(20)	8(16)
TMJ disorders	8(16)	12(24)	1(2)	0	36(72)	38(76)	5(10)	0
Facial space infection	4(8)	19(38)	23(46)	4(8)	20(40)	24(48)	3(6)	3(6)
Removal of salivary gland	22(44)	34(68)	1(2)	1(2)	23(46)	15(30)	4(8)	0
Reconstructive Surgery								
Sinus lift surgery	17(34)	39(78)	5(10)	2(4)	20(40)	8(16)	8(16)	1(2)
Child with cleft lip	4(8)	6(12)	28(56)	22(44)	15(30)	22(44)	3(6)	0
Child with cleft palate	8(16)	7(14)	15(30)	18(36)	21(42)	25(50)	6(12)	0
Difficulty breathing in the nose	49(98)	48(96)	0	1(2)	1(2)	1(2)	0	0
Dental implants	0	0	1(2)	0	3(6)	13(26)	46(92)	37(74)
Cosmetic Surgery								
Cosmetic surgery of nose	7(14)	6(12)	41(82)	42(84)	2(4)	2(4)	0	0
Appearance of the face	0	0	47(94)	44(88)	3(6)	6(12)	0	0
Appearance of the jaw	2(4)	0	10(20)	18(36)	30(60)	29(58)	8(16)	3(6)
Scar revision of the face	0	0	47(94)	48(96)	2(4)	2(4)	1(2)	0
Lip repositioning	1(2)	1(2)	39(78)	42(84)	8(16)	5(10)	2(4)	2(4)

As seen on table 3, most of the first and fourth-year students have similar responses regarding the treatment of trauma, pathology, reconstructive surgery and cosmetic surgery by various specialists. On the reconstructive surgery part, more than half of the first-year students [28(56%)] expected a plastic surgeon to treat cleft lip but fourth-year students [22(44%)] expected both a plastic surgeon and oral and maxillofacial surgeon to equally treat the same.

DISCUSSION

This study shows that the majority of medical students [81 (81%)] have heard of OMFS specialty which is similar to the study done by Hunter, et al. (83%) in the United States of America.[6] It is more than that seen in the study by Subhas Raj, et al. (41%) in India.[5] On comparing first year [33 (66%)] with fourth-year students [48 (96%)] there was a difference which may be due to their level of education. Here, at Birat Medical College, medical students have their classes on dental surgery in the fourth year only where they are taught about various specialties of dentistry and their relevant clinical applications. Most of the students (86%-91%) expected oral and maxillofacial surgeon for treatment of facial fractures such as a fracture of the lower jaw, upper jaw, and cheekbone similar to other studies by Hunter, et al. (64% to 88%), Subhash Raj, et al. (92%), Rocha, et al. (57% to 93%) and Reddy, et al. (98%).[5-8] Plastic surgeon was preferred for the treatment of a cut on the face [68(68%)] this may be due to the fact that many associate plastic surgery with minimal scar or scarless surgery. However, facial lacerations are primarily managed by oral and maxillofacial surgeons at our hospital. On the pathology part, most students expected oral and maxillofacial surgeons to treat tumours of jaws [78 (78%)], cysts of jaws [77 (77%)], TMJ disorders [74 (74%)], and facial space infection [44 (44%)]. Preferring oral and maxillofacial surgeon for TMJ disorder [74(74%)] is similar to studies done by Hunter, et al. (79%) and Reddy, et al. (94%).[6,8]

About half of the students [44 (44%)] expected Oral and maxillofacial surgeon to manage facial space infection more than in the study by Vadepally, et al. (13.5%).[9] Many students preferred plastic surgeon for treatment of cleft lip [50 (50%)] but oral and maxillofacial surgeon for the cleft palate [46 (46%)] similar to the study by Hunter, et al. (61%).[6] Majority of students [83 (83%)] preferred periodontist for the placement of dental implants as mentioned by Hunter, et al. (68%) in their study this may be due to overlapping of the procedure with the periodontist.[6] On cosmetic surgery part, plastic surgeons was preferred for most of procedures such as cosmetic surgery of nose [83 (83%)],appearance of face [91 (91%)], scar revision of face [95 (95%)], lip repositioning [81 (81%)]. Oral and maxillofacial surgeon was preferred for cosmetic surgery of appearance of jaw [59 (59%)] similar to the study by Hunter, et al. (50%).[6] This may be because many associate oral and maxillofacial surgeons to jaws only.

The findings of the study show that students are much more aware of maxillofacial trauma and pathology compared to reconstructive and cosmetic surgery parts that are managed by oral and maxillofacial surgeons. This may be due to students being unaware of the fact that reconstructive and cosmetic surgeries also do come under the domain of OMFS. Also, there is overlap between specialties of ENT, Plastic Surgery, and OMFS with no definitive boundaries and

also, each surgeon is credentialed for a surgical procedure or consultation, depending on his or her level of training and expertise.[6]

Ameerally, et al. suggested the simpler name "Facial and Oral Surgery" instead of OMFS so that non -medical people can understand too.[2] Laskin, et al. evaluated 12 specialties and showed that specialty recognition was not a problem of OMFS alone, no name alone can ever be completely descriptive.[11]Ifeacho, et al. compared their study with the one done 10 years back by Ameerally, et al. and concluded that there has been some improvement in the perception of the role of OMFS.[10] OMFS originally arising from medicine, eventually became a dentally based specialty and its dual referral base can be used to widen its specialty recognition.[2,12]

CONCLUSION

The majority of medical students have heard of the OMFS specialty, however, they are not fully aware of the expertise and potentiality of the specialty.

RECOMMENDATIONS

The study should be conducted in multiple medical colleges to assess the awareness of OMFS specialty among medical students.

LIMITATION OF STUDY

This study was done at Birat Medical College, so the findings of the study cannot be generalised to all the medical students of Nepal. Different medical colleges have different types of curricula based on the university they are affiliated with.

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CONFLICT OF INTEREST

None

FINANCIAL DISCLOSURE

None

REFERENCES

1. Bell RB. The Role of Oral and Maxillofacial Surgery in the Trauma Care Center. J Oral Maxillofac Surg. 2007;65(12):2544–53.doi: 10.1016/j.joms.2007.02.003
2. Ameerally P, Fordyce AM, Martin IC. So you think they know what we do? The public and professional perception of oral and maxillofacial surgery. Br J Oral Maxillofac Surg. 1994;32(3):142–5.doi: 10.1016/0266-4356(94)90097-3
3. Laskin DM. The Past, Present, and Future of Oral and Maxillofacial Surgery. J Oral Maxillofac Surg. 2008;66(5):1037–40.doi: 10.1016/j.joms.2007.11.037
4. Willis DHR, Tong DC, Thomson WM, Love RM. Maxillofacial trauma and the GDP - Specialty recognition and patterns of referral. N Z Dent J. 2010;106(3):97–102. PMID: 20882738
5. Subhashraj K, Subramaniam B. Awareness of the Specialty of Oral and Maxillofacial Surgery Among Health Care Professionals in Pondicherry, India. J Oral Maxillofac Surg. 2008;66(11):2330-2334.doi: 10.1016/j.joms.2007.04.025
6. Hunter MJ, Rubeiz T, Rose L. Recognition of the scope of oral and maxillofacial surgery by the public and health care professionals. J Oral Maxillofac Surg. 1996;54(10):1227-1232.doi: 10.1016/s0278-2391(96)90357-2
7. Rocha NS, LaureanoFilho JR, Silva EDO, Almeida RCA. Perception of oral maxillofacial surgery by health-care professionals. Int J Oral Maxillofac Surg. 2008;37(1):41-46. doi: 10.1016/j.ijom.2007.07.001
8. Reddy K, Adalarasan S, Mohan S, Sreenivasan P, Thangavelu A. Are People Aware of Oral and Maxillofacial Surgery in India? J Maxillofac Oral Surg. 2011;10(3):185-189. doi: 10.1007/s12663-011-0208-y
9. Vadepally AK, Sinha R. What Surgical Education the Speciality Offers? Perception of Role of Oral and Maxillofacial Surgery by 1200 Healthcare Professionals, Students and the General Public in Hyderabad, India. J Maxillofac Oral Surg. 2018;17(2):182–7.doi: 10.1007/s12663-017-1050-7
10. Ifeacho SN, Malhi GK, James G. Perception by the public and medical profession of oral and maxillofacial surgery - Has it changed after 10 years? Br J Oral Maxillofac Surg. 2005;43(4):289–93.doi: 10.1016/j.bjoms.2004.11.026
11. Laskin DM, Ellis JA, Best AM. Public recognition of specialty designations. J Oral Maxillofac Surg. 2002;60(10):1182–5.doi: 10.1053/joms.2002.35000
12. Laskin DM. Oral and maxillofacial surgery: The mystery behind the history. J Oral Maxillofac Surgery, Med Pathol. 2016;28(2):101–4. doi: 10.1016/j.ajoms.2015.11.001