

**ADDIS ABABA UNIVERSITY, COLLEGE OF HEALTH SCIENCES,
SCHOOL OF MEDICINE, DEPARTMENT OF DENTISTRY, ORAL AND
MAXILLOFACIAL SURGERY UNIT**



**A CROSS SECTIONAL DESCRIPTIVE STUDY ON KNOWLEDGE,
ATTITUDE AND PERCEPTION OF ORAL AND MAXILLOFACIAL
SURGERY SPECIALTY AMONG HEALTHCARE PROFESSIONALS IN
TIKURANBESSA SPECIALIZED HOSPITAL**

BY:

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**A RESEARCH PAPER TO BE SUBMITTED TO ADDIS ABABA
UNIVERSITY, SCHOOL OF MEDICINE, COLLEGE OF HEALTH SCIENCES,
DEPARTMENT OF DENTISTRY, ORAL AND MAXILLOFACIAL SURGERY
UNIT IN PARTIAL FULFILLMENT OF THE REQUIRMENT FOR
SPECIALITY CERTIFICATE IN ORAL AND MAXILLOFACIAL SURGERY.**

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Study area	Tikur Anbessa specialized hospital, Addis Ababa, Ethiopia
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A RESEARCH PAPER TO BE SUBMITTED TO DEPARTMENT OF DENTISTRY AND ORAL AND MAXILLOFACIAL SURGERY UNIT, SCHOOL OF MEDICINE, COLLEGE OF HEALTH SCIENCES, ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIRMENT FOR SPECIALITY CERTIFICATE IN ORAL AND MAXILLOFACIAL SURGERY

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Abstract

Background: Oral and maxillofacial surgery evolves around the head and neck region, and acts as a connecting bridge between medical and dental specialties. In many health services communities, the scope of oral and maxillofacial surgery (OMFS) as a discipline is frequently not probably understood. Good awareness of OMFS among different branches of health service providers is essential for better referral strategies and will be for the benefit of the patient.

Objective: The main objective of this study is to assess the knowledge, attitude and perception of oral and maxillofacial surgery specialty among healthcare professionals at TikurAnbessa Specialized Hospital in Addis Ababa, Ethiopia.

Method: A descriptive cross-sectional study design and a convenient sampling method is used. Self-administered questionnaires were prepared and filled out by the healthcare professionals. Descriptive statistics such as demographic data, knowledge, attitude and perception of study participants from their responses of the questionnaire were recorded and analyzed using SPSS version 25 software.

Time frame: The study was conducted from December, 2022 to July, 2023.

Result: A total of 125 healthcare professionals were participated in this study. Out of which, 75 were males and 50 were females. Most of participants were in the age range between 20 and 30 years. And, most of them have been in clinical practice in a range of 2 to 5 years. Regarding knowledge and attitude of healthcare professionals, the result of this study showed that 76 (60.8%) have poor knowledge and 49 (39.2) have good knowledge. Similarly, most participants have poor attitude towards oral and maxillofacial surgery specialty which accounts for about 79 (63.2%) of participants and 46 (36.8) of them have good attitude. On the contrary, the perception of healthcare professionals towards the level of oral and maxillofacial surgery service given in TikurAnbessa specialized hospital is good in majority of them (76, 60.8%) and the rest 49 (39.2%) participants have poor perception.

Conclusion: The study concluded that there is poor knowledge and attitude of oral and maxillofacial surgery specialty among study participants.

Keywords: Oral and maxillofacial surgery, knowledge, attitude, perception, healthcare professionals

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List of abbreviations

OMFS – Oral and Maxillofacial Surgery

ENT – Ear, Nose and Throat

TMJ – Temporomandibular Joint

CLP – Cleft lip and palate

CHAPTER 1- INTRODUCTION

1.1 Background

Oral and maxillofacial surgery is a surgical branch, to correct a wide spectrum of diseases, injuries and defects in the head, neck, face, jaws region and the hard and soft tissues of the oral and maxillofacial region [1].

Oral and maxillofacial surgery (OMFS) is a specialty, which can be considered to be the borderline between dentistry and medicine [2]. This specialty has gained interest in areas of facial trauma, dentofacial deformities, jaw pathologies, temporomandibular joint disorders, salivary gland pathologies, trigeminal neuralgias, orofacial pains, swellings of the face and neck and oral cancers [3].

New methods have also been introduced in the field like distraction osteogenesis, tissue engineering, dental implant surgeries, orthognathic surgeries, treatment of cleft lip and palate, sleep apnea treatment and facial reconstruction [4, 5].

The work of an oral and maxillofacial surgeon does not end with tooth and its surroundings; it expands to include procedures that enhance the quality of life by providing better form, function and aesthetics, as well as life-saving procedures [6].

The scope of oral and maxillofacial surgery (OMFS) often overlaps with that of other surgical specialties [7]. Evaluating awareness of oral and maxillofacial surgery among healthcare professionals is of great importance. Thus, assessing the knowledge and awareness of OMFS will assist in creating good referral system and efficient delivery of quality service.

Studies published almost a decade ago showed that there was limited awareness of OMFS among the health professionals, compared with the closely associated specialties of ear, nose and throat surgery (ENT) and plastic surgery [8].

1.2 Statement of the problem

Oral and maxillofacial surgery (OMFS) is a specialty that continued to evolve and broaden from oral surgery to craniomaxillofacial surgery. It provide procedures that are lifesaving (e.g.

maxillofacial trauma, oral oncology), as well as those that enhance the quality of life by providing better function (reconstructive surgery) and aesthetics (aesthetic facial surgery) in a well-defined anatomical area [9].

Despite this evolution, many studies conducted in developing and developed countries revealed that health care professionals were heard of OMFS but they are still unaware of the scope of the specialty [10].

OMFS has wide scope of practice that overlaps with other medical specialties, mixed referral pattern to ENT and OMFS were noted in the management of maxillofacial oncology and pathology [11], this has cause a notable disparity in referring preferences and confusion in choosing an appropriate specialty for case management among health care professional.

This confusion may be suggestive of medical specialists need to have a better knowledge and awareness towards OMFS scope, so that, patients will be referred properly in the right manner. And this proper referral system will ultimately lead to delivering better care to the public, smaller burden on hospital service and greater patient satisfaction.

1.3 Significance of the study

To the best of my knowledge, no study has been conducted on knowledge, attitude and perception of oral and maxillofacial surgery among health care professionals in Ethiopia. Therefore, this study will serve as a baseline study where future researches can be based on and for further advancing the edges of the specialty.

CHAPTER 2- LITERATURE REVIEW

A research done on the perception of oral and maxillofacial surgery amongst Australian medical practitioners in 2018 showed that there is adequate awareness of the core fields in OMFS (trauma, dento-alveolar). But, less awareness appears to be present of the expanding role of OMFS in the areas of pathology and cosmetic and obstructive sleep apnea surgery. In this study 90 general practitioners were participated. The majority of general practitioners would refer to OMFS regarding mandibular, maxillary fractures and dentoalveolar fractures (80%, 75.5% and 92.22% respectively). With regards to nasal fractures, ENT was the dominant referral destination with 72.22% of general practitioners choosing to consult with ENT. Responses with regards to the frontal bone and zygomatic fractures were more equally distributed between OMS and Plastic Surgery, with the slight majority referring to OMS(53.3% for zygomatic fractures, 44.4% for frontal bone fractures) over plastic surgery (37.8% for zygomatic fractures, 41.11% for frontal bone fractures). For lacerations involving the face, the majority of respondents chose plastic surgery (86.7%), with only 2 responses (2.2%) choosing to refer OMFS. With the clinical situations involving pathology of the head and neck, ENT was the chosen referral stream for sinus pathology (87.78%) and lumps in the nose (94.4%). Oral pathology was more evenly distributed between ENT and OMFS, with 51.11% of respondents choosing to refer oral cancer to ENT and 44.44% referring to OMFS. Similar responses were noted for the biopsy of an oral lesion, with 37.78% referring to ENT and 53.33% referring to OMS. The majority of respondents however would refer jaw cysts and tumors for management by an OMFS surgeon (71.11%), followed by ENT (16.67%). Similarly, the majority of respondents chose to refer to OMFS for surgery involving the TMJ (87.8%). With regards to scenarios involving reconstruction; Reconstruction of the maxilla and mandible was predominantly referred to OMFS (62.2% and 70% respectively), with the second most preferred specialty being Plastic Surgery (30% for maxilla, 25.6% for the mandible). Cleft lip and palate was commonly referred to be managed by plastic surgery, with 63.33% and 52% of respondents referring to the specialty respectively, followed by OMFS surgery (25.56% and 28.89% respectively). Queries in regards to overall facial appearance and cosmetic Botox were primarily referred to plastic surgery (94.4%). Nasal deformity appearance was equally referred between plastic surgery and ENT surgery (48.89% each). The majority of respondents chose to refer procedures involving jaw discrepancies to OMFS (76%), followed by plastic surgery (18.89%). The majority of respondents referred

Obstructive sleep apnea (OSA) referred to ENT surgeons (90%) with only 7.7% referring to OMFS [11].

A survey which was conducted in Manipur, India in 2022 showed that even though OMFS is a vast specialty, most of the healthcare professionals are unaware of its scope. In this study, 115 medical practitioners were participated and 77.7% have selected OMFS, 18.5% plastic surgery, 1.9% ENT and 1.9% general surgeon for treating fractures of maxillofacial region. For the treatment of oral cancer, 45.6% have selected OMFS, 50.5% ENT, 2.9% plastic surgeon and 1% general surgeon. Regarding the management of cleft lip and palate, 46.6% of the participants preferred plastic surgeon, 30.1% OMFS and 23.3% ENT. According to this survey, OMFS were preferred by most of the healthcare professionals for the treatment of TMJ disorders (91.3% OMFS, 3.9% plastic, 2.9% ENT and 1.9% general surgeon) and orofacial infection (40.8% OMFS, 30.1% ENT, 27.2% general surgeon and 1.9% plastic surgeon). For rhinoplasty, medical practitioners equally opted for ENT and plastic surgeon (48.5%) and only 2.9% of them have selected OMFS. For the treatment of facial deformities and cosmetic surgery of face, the majority of the participants preferred plastic surgeon (79.6% and 80.6% respectively) and 16.5% and 18.4% selected OMFS [12].

A cross-sectional study done in Saudi Arabia in 2019 showed that awareness of the main scope of OMFS practices is low among medical practitioners in Saudi Arabia. In this study, 140 medical practitioners have participated. In terms of specialty recognition, 65.7% of medical practitioners recognized OMFS as a dentistry specialty. In the category of trauma, for facial wounds, 74.9% have selected plastic surgery, 19.6% OMFS, 4.9% ENT and 0.6% other. In contrast, for facial bone fractures, most would select an OMS surgeon (61.4%), followed by a plastic surgeon (20.3%) and ENT (14.1%). In the category of pathology, regarding the treatment of facial abscesses, 32.8% of participants have selected OMS, 41.5% plastic surgery, 18% ENT and 7.7% other. For the management of jaw cysts and tumors, most participants prefer OMS (55.3% and 52.4% respectively.), 7.7% and 9.1% plastic surgery, 31.8% and 30% ENT, 5.3% and 8.6% other. For cases of oral cancer, 49.2% of participants indicated OMFS for management whereas, 35.1% indicated ENT, 9.4% other and 6.3% plastic surgery. For the treatment of salivary gland disorders, the majority of participants considering ENT (64.6%) the appropriate specialty then 24.2% OMFS, 8.1% other and 3.1% plastic surgery. For TMJ disorder, 58.9% have selected OMS, 24.4% ENT, 10.7% other and 6% plastic surgery. For lumps in the neck,

ENT was predominantly selected (59.4%) followed by, 16.5% plastic surgery, 15.9% other and 8.2% OMFS. In the category of reconstructive surgery, only 22.8% of medical practitioners considered an OMFS surgeon responsible for the treatment of cleft lip and palate, instead clearly preferring a plastic surgeon (50%) and 23.9% have selected ENT and 3.3% other. But for mandibular reconstruction, 56.8% preferred OMFS, 29% plastic surgery, 10.9% ENT and 3.3% other. Regarding sinus surgery, 73.5% considered ENT followed by 11.3% OMFS, 9.3% plastic surgery and 6% by other. In the category of cosmetic surgery, for cases of rhinoplasty, most medical practitioners (53.4%) chose the ENT specialty to address these cases, 39.9% selected plastic surgery, 4.5% OMFS and 2.3% other. Most participants (70.2%) agreed that a plastic surgeon would best handle face lifting and blepharoplasty cases, 17% by OMFS, 8.8% ENT and 4.1% by other. For jaw deformity affecting appearance, 45.3% have selected OMFS, 45.7% plastic surgery, 8.6% ENT and 0.4% other [13].

A study was done on Knowledge, attitude, and perception of oral and maxillofacial surgery specialty amongst healthcare professionals in Kuwait in 2021 indicates the need to increase awareness, especially towards cosmetic surgery procedures, and conduct health campaigns regarding oral and maxillofacial surgery among healthcare professionals. In this study, out of 100 physicians, an OMFS was preferred to treat broken jaws, eye bone fractures, and teeth trauma (100%, 67% and 75%) respectively. For facial laceration majority of them, preferred plastic surgeon (45%) followed by general surgeon (26%) and OMFS (19%) and the rest 10% of physicians preferred others. Regarding nasal fracture, 79% of them preferred ENT, 17% plastic surgeon and only 4% of them preferred OMFS. Relating to pathology, OMFS was preferred for oral lesion biopsies (80%), cancers of the lip (55%), mouth, or tongue (84%), and mouth lumps (81%). For lump in the neck, they preferred ENT (53%) then general surgeon (37%), OMFS (7%) and Plastic surgery (3%). For salivary gland removal and sinus surgery, medical doctors preferred ENT (52% and 80%), OMFS (31% and 7%) and General surgery (15% and 13%). In the category of reconstructive surgery, majority of participants preferred Plastic surgery followed by OMFS. For CLP, 60% of medical doctors preferred Plastic surgery whereas 31% of them preferred OMFS and 9% ENT, for facial reconstruction after facial trauma, 52% Plastic surgery and 48% OMFS, for facial reconstruction with free flaps 72% Plastic surgery and 28% OMFS, for grafting bone in the face 50% Plastic surgery and 44% OMFS the rest preferred ENT (3%)

and general surgery (3%). Regarding TMJ surgery 90% of medical doctors preferred OMFS and the rest 10% preferred ENT [14].

A study conducted in Benghazi-Libya in 2018 revealed that only 36% of medical specialists have heard of oral and maxillofacial surgeon. The facial lacerations were treated by plastic surgeon in opinion of 93% of medical specialists, whereas 6% of responders preferred OMFS who treat these lacerations. 55% to 66% of participants chose the oral and tongue laceration to be sutured by OMFS. Regarding the management of orbital trauma, 51% to 90% of medical specialists chose ophthalmologist to treat orbital floor fracture and black eye and 7% to 30% of medical specialists chose OMFS to treat these conditions. 81% to 99% of responders chose OMFS to treat zygomatic, maxillary and mandibular fractures. The nasal bone fracture is to be treated by OMFS in the opinion of 27% of medical specialists and by ENT surgeon in the opinion 73% of medical participants. In the opinion of 67% to 71% medical specialists, lip and cheek cancer is operated by general surgery and 11% to 13% they expect OMFS who is the operator. For neck lymph node dissection, 71% of respondents chose GS and 18% chose ENT, whereas only 2% chose OMFS and 1% Plastic surgery. For jaw cysts, 94% of participants chose OMFS but for cysts of the face most of them chose Plastic surgery (51%) followed by general surgery (29%) and OMFS (19%). 87% to 95% of medical participants chose Plastic surgery to perform surgeries of cleft lip and palate, facial asymmetry and cosmetic surgery and only 3% to 7% of participants expected those surgeries within the scope of OMFS. Salivary gland conditions were treated by ENT, general surgery, Plastic surgery and OMFS in choice of 66%, 24%, 3% and 2% respectively. For TMJ conditions 93% of medical participants chose OMFS. Regarding orthognathic surgery, OMFS is chosen by 73% of medical respondents. For the management of oral abscesses, all medical participants (100%) chose OMFS. In contrast, for facial abscesses, 50% of participants chose general surgery, 29% OMFS and 20% plastic surgery [15].

A prospective cross-sectional study was done to assess the awareness among physicians about the specialty of OMFS and to identify clinical conditions in which medical colleagues may misjudge the role of an OMFS in Sokoto, Northwest Nigeria. The result showed that there is a 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. There is, however, a 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. Salivary gland diseases management between the OMFS and the ENT surgeons showed a balanced response rate (43.7% and 37.3%), respectively. For CLP and esthetic facial surgery, most respondents chose Plastic surgery (81.7 % and 65.9%), respectively [16].

CHAPTER 3- OBJECTIVES

3.1 General objective

- To assess the knowledge, attitude and perception of oral and maxillofacial surgery specialty among healthcare professionals in TikurAnbesa Specialized Hospital in Addis Ababa, Ethiopia.

3.2 Specific objectives

- To assess the knowledge, attitude and perception of oral and maxillofacial surgery specialty among medical specialists in the departments of ENT, Emergency medicine, General surgery, Oncology, Orthopedics and Pediatrics.
- To assess the knowledge, attitude and perception of oral and maxillofacial surgery specialty among medical residents in the departments of ENT, Emergency medicine, General surgery, Oncology, Orthopedics and Pediatrics.
- To assess the knowledge, attitude and perception of oral and maxillofacial surgery specialty among nurses in the departments of ENT, Emergency medicine, General surgery, Oncology, Orthopedics and Pediatrics.

CHAPTER 4-METHODOLOGY

4.1 Study area

The study was conducted at TikurAnbesa Specialized Hospital which is found in Addis Ababa, Ethiopia. There are 23 departments, of which, six of them were selected for participating in this study, which include the department of ENT, Emergency medicine, General surgery, Oncology, Orthopedics and Pediatrics. Those departments were selected in the consideration of their relevancy and relation with oral and maxillofacial surgery.

4.2 Study period

The study was conducted from December, 2022 to July, 2023.

4.3 Study design

It was based on a descriptive cross-sectional study to assess the knowledge, attitude and perception of oral and maxillofacial surgery specialty among healthcare professionals.

4.4 Study population

4.4.1 Source population: All medical seniors, residents and nurses who are at work in TikurAnbesa Specialized Hospital.

4.4.2 Target population: All medical seniors, residents and nurses who are at work in the departments of ENT, Emergency medicine, General surgery, Oncology, Orthopedics and Pediatrics in TikurAnbesa Specialized Hospital.

4.4.3 Study population: Some medical seniors, residents and nurses who are at work in the departments of ENT, Emergency medicine, General surgery, Oncology, Orthopedics and Pediatrics in TikurAnbesa Specialized Hospital during the study period.

4.5 Eligibility criteria

4.5.1 Inclusion criteria

- Those healthcare professionals who were at work
- Those healthcare professionals available during data collection period
- Those healthcare professionals who were volunteer

4.5.2 Exclusion criteria

- Those healthcare professionals who were not volunteer
- Those healthcare professionals who were not available during data collection

4.6 Sample size determination

All seniors, residents and nurses from the departments of ENT, Emergency medicine, General surgery, Oncology, Orthopedics and Pediatrics who were available during study period.

4.7 Sampling method

- Convenient sampling was used.

4.8 Data collection

- Data was collected by recording the required information on prepared structured questionnaire. The questionnaires were administered to all consenting healthcare professionals who were at work during the study period. The questionnaire comprised of questions pertaining to the knowledge, attitude and perception of oral and maxillofacial specialty.
- The questionnaires were administered to the healthcare professionals by the investigator.
- Healthcare professionals would answer the questionnaire and return back to the data collector. It was taking 5 - 10 minutes to answer all the questions.
- Pretesting was not done.

4.9 Study variables

- Independent variables: Age, department, level of education, year of experience
- Dependent variable: knowledge, attitude and perception of oral and maxillofacial surgery

4.10 Data management and Data analysis

- Questionnaires were distributed for each healthcare professional after explaining the purpose and assuring confidentiality. Verbal consent was taken. Questionnaires data were checked for completeness, missing items and consistency.
- Finally, the collected data was analyzed by SPSS version 25 computer software program and was tested statistically to assess the level of knowledge, attitude and perception of healthcare professionals and the results were to be expressed by using the knowledge score as good or poor.

4.11 Operational definitions

- Healthcare professionals – medical seniors, residents and nurses
- Knowledge - facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject.

- Attitude - a settled way of thinking or feeling about something.
- Perception - the way in which something is regarded, understood, or interpreted.
- Good knowledge – the mean value to the responses of knowledge questions of 2.29 and above.
- Poor knowledge - the mean value to the responses of knowledge questions below 2.28.
- Good attitude - the mean value to the responses of attitude questions of 3.06 and above.
- Poor attitude - the mean value to the responses of attitude questions below 3.05.
- Facial laceration - is a cut or tear in the soft tissue of your face or neck
- Facial fracture – broken bones anywhere in the face which includes the nose, cheekbones, the area around the eyes, and the upper and lower jaw
- Maxillary sinus – a pyramidal shaped hollow space in the bones around the nose
- Oral cancer – a tumor develops in a part of the mouth. It may be on the surface of the tongue, the inside of the cheeks, the roof of the mouth (palate), the lips or gums.
- Cyst - a sac-like pocket of membranous tissue that contains fluid, air, or other substances
- Temporomandibular joint -the hinge joint between the temporal bone and the lower jaw
- Salivary gland -organs on each side of the face. They make saliva (spit), the lubricating fluid found in the mouth and throat.
- Abscess - a painful collection of pus, usually caused by a bacterial infection.
- Cleft lip and palate - are splits, or separations, in the upper lip and roof of mouth (palate) that occurs while a fetus develops in the uterus.
- Facial asymmetry - clinically perceptible and significant difference between the two halves of the face
- Orthognatic surgery -the surgical manipulation of the elements of the facial skeleton to restore the proper anatomic and functional relationship in patients with dentofacial skeletal anomalies
- Cosmetic surgery -is where a person chooses to have an operation, or invasive medical procedure, to change their physical appearance for cosmetic rather than medical reasons
- Multiple disciplines- involvement of more than one medical field for the treatment of specific disease or condition.

4.12 Data quality assurance

The quality of the structured questionnaires was assessed before the actual work, for its completeness. And, the data collector was informed in brief regarding the topic so that can explain the subject to the study population adequately. At the end of each day all of the collected data were reviewed and checked for completeness and relevance.

4.13 Ethical consideration

Before data collection, letter was received from the ethics and review committee of the department of dentistry. Verbal consent was to be obtained from each questionnaire participant. Those unwilling to consent were omitted from the study. To ensure confidentiality of questionnaire responses, respondent names were not be required and questionnaires were not be labeled except with numbers.

4.14 Dissemination of results

Results will be put in a research paper that is to be submitted and will be reported to the Addis Ababa University College of Health Science Department of Dentistry Oral and Maxillofacial Surgery Unit and to other concerned bodies.

4.15 Limitations of the study

- No available published data on the respective topic done in Ethiopia, which makes it difficult to have a baseline study for comparison.
- Most of the available studies from abroad were using broad terms as healthcare professionals which made the review to have a limitation to correlate with the current study.
- This study is a descriptive cross-sectional study and it was conducted in few healthcare professionals in TikurAnbessa specialized hospital, so the results may not be generalized to the entire population.

CHAPTER 5-RESULT

In this study, the questions were categorized in to four parts as socio-demographic data, knowledge, attitude and perception. From those questions some of them were selected for the assessment of knowledge, based on the assumption that the mentioned clinical scenarios are managed by oral and maxillofacial surgeons whereas those clinical scenarios that were selected for the assessment of attitude, are managed by multiple disciplines and the researcher wanted to assesses do the healthcare professional think that those clinical scenarios are managed by oral and maxillofacial surgeons.

Socio-demographic characteristics of study participants

A total number of 125 participants were responded to the questionnaire study. Out of which, 14(11.2%) were seniors, 94(75.2%) were residents and 17(13.6%) were nurses. The participants were from different medical specialties such as ENT, emergency medicine, general surgery, oncology, orthopedics and pediatrics. The demographic data shows that the age of most of the participants lies within a range of 20-30 years (59.2%). The sex distribution of the respondents was of males (60%) and females (40%). Most of the respondents have been in clinical experience for 2-5 years.

Table 1- Socio-demographic variable of study participants on knowledge, attitude and perception of scope of oral and maxillofacial surgery specialty among healthcare professionals in TikurAnbessa Specialized Hospital, Addis Ababa, Ethiopia, 2023 (n=125)

Variable	Category	N (%)
Department	ENT	7 (5.6%)
	Emergency	7 (5.6%)
	General surgery	19 (15.2%)
	Nursing	17 (13.6%)
	Oncology	20 (16.0%)
	Orthopedics	25 (20.0%)
	Pediatrics	30 (24.0%)
Age	20-30	74 (59.2%)
	31-40	42 (33.6%)

	41-50	2 (1.6%)
	Above 50	7 (5.6%)
Sex	Male	75 (60.0%)
	Female	50 (40.0%)
Level of education	Senior*	14 (11.2%)
	Resident**	94 (75.2%)
	BSc Nurse	17 (13.6%)
Year of experience	Less than 2 years	32 (25.6%)
	2-5 years	64 (51.2%)
	6-10 years	18 (14.4%)
	Above 10 years	11 (8.8%)

*-senior refers to educational level of above GP plus specialty

**-GP on a postgraduate study

Knowledge of participants towards OMFS specialty

Out of 125 participants, 102(81.6%) were aware that oral and maxillofacial surgery service is available in TikurAnbessa specialized hospital and 104(83.2%) were aware of the oral and maxillofacial surgery as a branch of dentistry. In this study, majority of respondents knew that zygomatic, maxillary and mandibular fractures are managed by oral and maxillofacial surgeons (78.4%, 81.6% and 80.8% respectively). Oral cancer management according to 50(40.0%) participants was by oral and maxillofacial surgeon, while 34(27.2%) participants knew it is managed by ENT surgeon and 23(18.4%) by multiple disciplines with majority of them chose oral and maxillofacial surgeon and ENT surgeon followed by oral and maxillofacial surgeon and oncologist. Those participants (4.0%) who chose other specify option wrote oral cancer is managed by oncologist. For TMJ disorders, majority of participants knew it is managed by oral and maxillofacial surgeons (73.6%) followed by ENT surgeons (10.4%). For obstructive sleep apnea, majority of participants chose ENT surgeons (72.0%) and only 6.4% of participants knew it is managed by oral and maxillofacial surgeon. 12(9.6%) participants replied that they do not know who treats obstructive sleep apnea. According to 80(64.0%) respondents inability or difficulty of mouth opening is managed by oral and maxillofacial surgeon followed by ENT surgeons 21(16.8%) and 8(6.4%) chose both OMFS and ENT. Nine of participants (7.2%) do not

know who treats inability or difficulty of mouth opening. In this study facial swelling would be managed by oral and maxillofacial surgeons in 32.8% of respondents, ENT surgeons (14.4%), plastic surgeons (13.6%), general surgeons (11.2%) and multiple disciplines (21.6%). With regard to trigeminal neuralgia and atypical facial pain management 47 (37.6%) study participants chose oral and maxillofacial surgeon, 28 (22.4%) chose ENT surgeon, 20 (16.0%) chose neurologist and 15 (12%) chose multiple disciplines. Overall analysis of this data shows that 60.8% of participants have poor knowledge about OMFS with the mean value of 2.29.

Table 2 – knowledge of study participants about the scope of oral and maxillofacial surgery specialty among healthcare professional in TikurAnbessa Specialized Hospital, Addis Ababa, Ethiopia, 2023 (n=125)

Variable	Yes	No	Don't know
Service availability	102 (81.6%)	13 (10.4%)	10 (8.0%)
Branch of dentistry	104 (83.2%)	19 (15.2%)	2 (1.6%)

	Oral and maxillofacial surgery	Plastic surgery	ENT	General surgery	Other	Don't know	Multiple response
Zygomatic bone fracture	98 (78.4%)	4 (3.2%)	6 (4.8%)	1 (0.8%)	-	5 (4.0%)	11 (8.8%)
Maxillary bone fracture	102 (81.6%)	1 (0.8%)	6 (4.8%)	1 (0.8%)	-	2 (1.6%)	13 (10.4%)
Mandibular fracture	100 (80.8%)	1 (0.8%)	8 (6.4%)	1 (0.8%)	-	2 (1.6%)	13 (10.4%)
Oral cancer	50 (40.0%)	6 (4.8%)	34 (27.2%)	3 (2.4%)	5 (4.0%)	4 (3.2%)	23 (18.4%)
TMJ disorder	92 (73.6%)	3 (2.4%)	13 (10.4%)	4 (3.2%)	-	5 (4.0%)	8 (6.4%)
Obstructive sleep apnea	8 (6.4%)	2 (1.6%)	90 (72.0%)	3 (2.4%)	3 (2.4%)	12 (9.6%)	7 (5.6%)

Difficulty in mouth opening	80 (64.0%)	1 (0.8%)	21 (16.8%)	4 (3.2%)	2 (1.6%)	9 (7.2%)	8 (6.4%)
Facial swelling	41 (32.8%)	17 (13.6%)	18 (14.4%)	14 (11.2%)	3 (2.4%)	5 (4.0%)	27 (21.6%)
Trigeminal neuralgia	47 (37.6%)	5 (4.0%)	28 (22.4%)	1 (0.8%)	20 (16%)	9 (7.2%)	15 (12%)

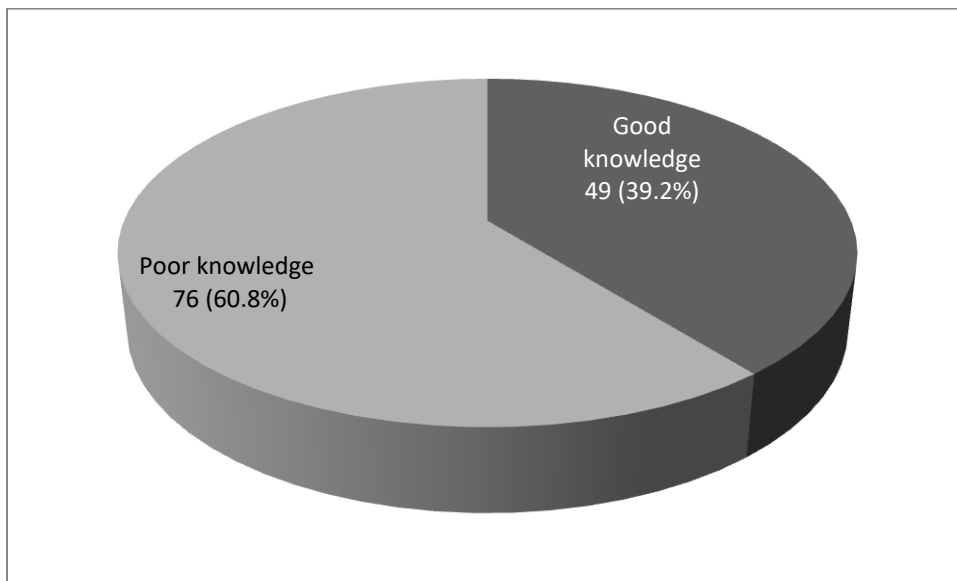


Figure 1- Overall knowledge of study participants towards OMFS

Attitude of participants towards OMFS specialty

According to this study, 77(61.6%) of participants think that orbital fracture is managed by oral and maxillofacial surgeons whereas, 21(16.8%) of participants consider ophthalmologists and 14(11.2%) chose multiple disciplines. With regard to nasal fracture 40.8% chose OMFS followed by ENT (38.4%) and multiple disciplines (16%). For facial laceration, 68(54.4%) respondents preferred plastic surgeons to oral and maxillofacial surgeons (20.8%) and around 13.6% of respondents think that multiple disciplines are involved for facial laceration repair. Similarly, plastic surgeons are the most preferred ones for the management of cleft lip and palate with the percentage of 38.4%. Oral and maxillofacial surgeons were chosen by 24.0% of respondents followed by ENT (19.2%) and multiple disciplines (17.6%). Most of participants

(44.0%) chose oral and maxillofacial surgeons for the management of craniofacial anomalies, 19.2% and 17.6% of respondents consider plastic surgeons and multiple disciplines respectively. And, 8.8% replied they don't know who manages craniofacial anomalies. According to participants, salivary gland diseases are managed by oral and maxillofacial surgeons, ENT surgeons, multiple disciplines and general surgeons (40.0%, 30.4%, 16.0% and 7.2% respectively). Regarding neck swelling majority (52.0%) chose ENT surgeons followed by multiple disciplines (20%) and general surgeons (17.6%). Only 2.4% of participants chose oral and maxillofacial surgeons for management of neck swelling. For carcinoma of sinuses, ENT surgeons are the most preferred ones (49.6%). Oral and maxillofacial surgeons were chosen by 20.8% of respondents and 18.4% chose multiple disciplines. Overall analysis of this data shows that 63.2% of participants have poor attitude towards OMFS with the mean value of 3.06.

Table 3 - Attitude of study participants about the scope of oral and maxillofacial surgery specialty among healthcare professional in TikurAnbessa Specialized Hospital, Addis Ababa, Ethiopia, 2023 (n=125)

	Oral and maxillofacial surgery	Plastic surgery	ENT	General surgery	Other	Don't know	Multiple response
Orbital fracture	77 (61.6%)	5 (4.0%)	5 (4.0%)	0	21 (16.8%)	3 (2.4%)	14 (11.2%)
Nasal fracture	51 (40.8%)	3 (2.4%)	48 (38.4%)	0	1 (0.8%)	2 (1.6%)	20 (16%)
Facial laceration	26 (20.8%)	68 (54.4%)	5 (4.0%)	7 (5.6%)	1 (0.8%)	1 (0.8%)	17 (13.6%)
Cleft lip and palate	30 (24.0%)	48 (38.4%)	24 (19.2%)	1 (0.8%)	0	0	22 (17.6%)
Craniofacial anomalies	55 (44.0%)	24 (19.2%)	7 (5.6%)	2 (1.6%)	4 (3.2%)	11 (8.8%)	22 (17.6%)
Salivary gland diseases	50 (40.0%)	4 (3.2%)	38 (30.4%)	9 (7.2%)	1 (0.8%)	4 (3.2%)	20 (16%)
Neck swelling	3 (2.4%)	5 (4.0%)	65	22	2	3	25 (20%)

			(52.0%)	(17.6%)	(1.6%)	(2.4%)	
Carcinoma of sinuses	26 (20.8%)	1 (0.8%)	62 (49.6%)	0	6 (4.8%)	7 (5.6%)	23 (18.4%)

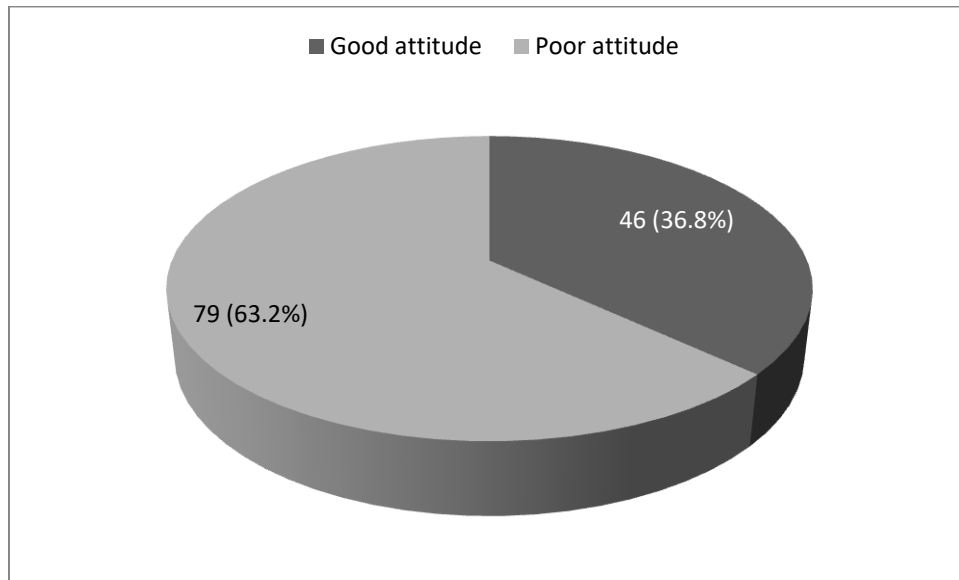


Figure 2- Overall attitude of study participants towards OMFS scope

Perception of participants towards OMFS

Participants were questioned about the level of service provided by oral and maxillofacial surgery professionals in TikurAnbessa specialized hospital. According to this study, out of 125 study participants, 76(60.8%) have good perception whereas 49 (39.2%) have poor perception.

Table 4 - Perception of healthcare professionals about the level of service provided by oral and maxillofacial surgeons and residents in TikurAnbessa Specialized Hospital, Addis Ababa, Ethiopia, 2023 (n=125)

	Excellent	Good	Neither good nor poor	Poor	Very poor
Level of service	21 (16.8%)	55 (44.0%)	38 (30.4%)	9 (7.2%)	2 (1.6%)

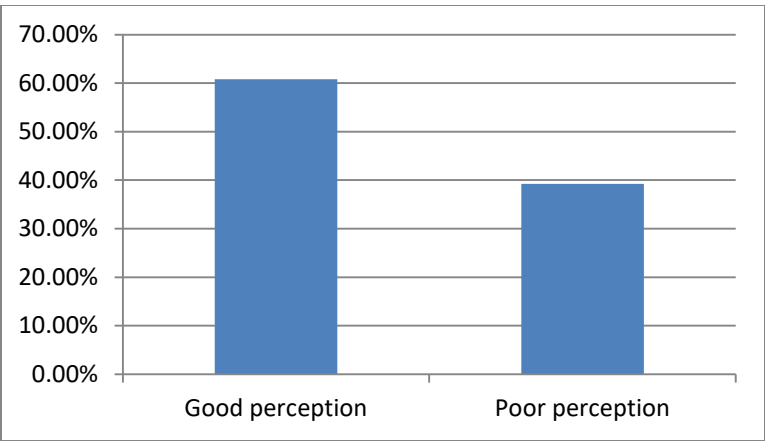


Figure 3- Overall perception of study participants towards OMFS scope

CHAPTER 6 –DISCUSSION

Oral and maxillofacial surgery specialty serves as a link between medical and dental fields in resolving many clinical problems in the head and neck region [15]. This study aimed to evaluate the knowledge, attitude and perception of oral and maxillofacial specialty among healthcare professional specifically medical seniors, residents and nurses in TikurAnbessa specialized hospital. Result of this study reveals that majority of healthcare professionals have awareness of oral and maxillofacial surgery as a branch of dentistry. Similarly, most of healthcare professionals were aware that oral and maxillofacial surgery service is available at TikurAnbessa hospital.

In this study, knowledge of health care professionals regarding the role of oral and maxillofacial surgeons in treating the fractures of maxillofacial region, oral cancer, TMJ disorder, obstructive sleep apnea, difficulty of mouth opening, facial swelling and trigeminal neuralgia was assessed.

Most of health care professionals were aware that oral and maxillofacial surgeons can manage zygomatic, maxillary and mandibular fractures. This finding is consistent with a study done in Libya [15].

With regard to oral cancer treatment, similar to Alnofaie et al. [13] healthcare professionals chose oral and maxillofacial surgeons (40.0%) and ENT surgeons (27.2%). And some of them chose multiple disciplines (18.4%) with most chosen ones are oncologists with oral and maxillofacial surgeons or ENT surgeons. This might be due to the fact that the management of oral cancer depends on the staging of the disease which directs the patient to have whether surgical or oncologic or both treatments.

The finding of this study showed that many of healthcare professionals were aware of the role of oral and maxillofacial surgeons (73.6%) in the management of TMJ disorders. This is in agreement with other published studies (India and Nigeria). Similar results were observed for the treatment of difficulty of mouth opening, which is in agreement with YandetiSrinivasulu, et al [17].

The result of this study revealed that majority of healthcare professionals does not have knowledge regarding the role of oral and maxillofacial surgeons in managing obstructive sleep apnea. 72.0% of healthcare professionals chose ENT surgeons while only 6.4% chose oral and

maxillofacial surgeons. This result is consistent with the study of E. Lababidi et al [11]. This might be due to the misunderstanding that obstructive sleep apnea is a disease of the soft tissue around the posterior airway alone.

With regard to facial swelling, relatively even distribution of responses were noted with slight predominance towards oral and maxillofacial surgeons (32.8%) followed by multiple disciplines, ENT surgeons, plastic surgeons and general surgeons (21.6%, 14.4%, 13.6% and 11.2% respectively). The slight predominance to OMFS might be because of most facial swellings may be related with odontogenic infections. This is at variance with a study done in India [18], where majority of respondents chose oral and maxillofacial surgeons, this may be because the medical professionals consider oral and maxillofacial surgeons as dentists who work around the tooth which might be the source of swelling.

In the present study, even though, a greater number of healthcare professionals were aware of oral and maxillofacial surgeons for the treatment of trigeminal neuralgia, a significant number of respondents also chose ENT surgeons and neurologists. This finding is supported by the study conducted in Jazan city, Saudi Arabia [19].

On the other hand, this study evaluated the attitude of healthcare professionals towards the role of oral and maxillofacial surgeons in treating orbital fracture, nasal fracture, facial laceration, cleft lip and palate, craniofacial anomalies, salivary gland disease, neck swelling and carcinoma of sinuses.

Contradicting MaraaiOrafi et al. [15] and supporting Kamal et al. [14], most healthcare professionals think that orbital fracture is managed by oral and maxillofacial surgeons. Next to OMFS, the respondents chose ophthalmologists. This might be due to the consideration of the respondents on anatomic location of the fracture.

In this study, with regard to the management of nasal fracture, there is nearly equal distribution of the responses to oral and maxillofacial surgeons (40.8%) and ENT surgeons (38.4%). This result is in contrast to some studies [14,15], in which, most professionals chose ENT surgeons for reduction of nasal bone fracture.

For the management of facial laceration, majority of healthcare professionals suggested plastic surgeons (54.4%) over oral and maxillofacial surgeons (20.8%). Similar results were noted in

other studies [11, 13, 14,15]. This might be due to the fact that the face is the main area of esthetics and the respondents consider the plastic surgeons as they frequently do reconstructive and cosmetic surgeries.

Cleft lip and palate management is multidisciplinary. In this study it was tried to assess the attitude of healthcare professionals towards the role of OMFS on CLP management. The result of this study showed 38.4% of healthcare professionals selected plastic surgeons whereas 24.0% have chosen oral and maxillofacial surgeons and 19.2% chose ENT surgeons. This result is consistent with the studies done in India [12] and Kuwait [14]. The reason why plastic surgeons preferred first might be due to the current availability of CLP management service as a team consists of mainly plastic surgeons.

Regarding craniofacial anomalies, most healthcare professional considered oral and maxillofacial surgeons for its management and plastic surgeons and multiple disciplines were also considered next to OMFS. This result contradicts with E. Lababidi et al. [11] and kamal et al. [14] in which, plastic surgeons are the most preferred ones.

With regard to salivary gland disease, the result of this study showed that oral and maxillofacial surgeons were chosen to manage salivary gland diseases in most healthcare professionals thought. This result is similar with the study done in Northwest, Nigeria [16]. In contrary, the result is not in agreement with Alnofaie et al. [13] Kamal et al. [14] and a study conducted in Pondicherry, India [18], where the majority of healthcare professionals chose ENT surgeons. This might be due to the fact that the overlapping of the scope of practice on salivary gland disease to both oral and maxillofacial surgery and ENT surgery.

Similar to E. Lababidi et al. [11]Alnofaie et al. [13] and kamal et al. [14] majority of healthcare professional thought neck swellings are managed by ENT surgeons followed by general surgeons. This might be due to the fact that most healthcare professionals are not familiar with the procedures done by oral and maxillofacial surgeons on the neck like neck dissection.

The finding of this study also revealed preferences for the management of carcinoma of sinuses by ENT surgeons which is similar with the result of Braimah, et al [16]. But, in the current study, oral and maxillofacial surgeons were also considered for the treatment of carcinoma of sinuses alone and with other specialties as multiple discipline responses.

Overall, the present study shows that healthcare professionals have inadequate knowledge and attitude regarding the scope of oral and maxillofacial surgery specialty especially in those clinical scenarios which require multi-disciplinary approach. This study has highlighted the knowledge, attitude and perception of healthcare professionals towards oral and maxillofacial surgery in TikurAnbessa specialized hospital. However, since the study was conducted in few departments of TikurAnbessa hospital, it may not be representative of the entire healthcare professionals.

CHAPTER 7 –CONCLUSION AND RECOMMENDATION

This study highlights that healthcare professionals have poor knowledge and attitude towards the scope of oral and maxillofacial surgery specialty. However, the perception they have towards the level of service provided by oral and maxillofacial surgeons and residents in TikurAnbessa specialized hospital is good. Investigating the current level of knowledge, attitude and perception towards the OMFS speciality among healthcare professionals will help to revise our referral system and conduct the necessary awareness campaigns to enhance their understanding of the scope of OMFS.

Oral and maxillofacial surgeon should take a leading role to raise awareness concerning the specialty. This can be done by demonstrating publications on the different scope of oral and maxillofacial surgery, preparing audits, organizing symposiums and presentations. There is also a need to refine the medical curriculum to increase the educational contents about the wide scope of oral and maxillofacial surgery.

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CHAPTER 9-ANNEX

Questionnaire on knowledge, attitude and perception of oral and maxillofacial surgery

Part I – Demographic data

1. Department _____
2. Age
 - 20-30
 - 31-40
 - 41-50
 - Above 50
3. Sex
 - Male
 - Female
4. Level of education
 - Senior
 - Resident
 - Nurse
5. Year of experience
 - Less than 2 years
 - 2 – 5 years
 - 6 – 10 years
 - Above 10 years

Part II – knowledge about OMFS

6. Do you think oral and maxillofacial surgery service is available in TikurAnbessa hospital?
 - Yes
 - No
 - Don't know
7. Are you aware of oral and maxillofacial surgery as a specialty branch of dentistry?
 - Yes
 - No
 - Don't know.
8. Who do you think has a role in treating orbital fractures

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Ophthalmologist
- Don't know

9. Who do you think has a role in treating nasal fractures

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

10. Who do you think treats zygomatic bone fracture

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

11. Who do you think treats maxillary bone fracture

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

12. Who do you think treats mandibular fracture

- Oral and maxillofacial surgeon
- Plastic surgeon

- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

13. Who treats facial lacerations

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

14. Who treats oral cancer

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

15. Who do you think has a role in managing temporomandibular joint disorders?

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

16. Who do you think has a role in managing cleft lip and cleft palate?

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon

- Other , specify _____
- Don't know

17. Who do you think manages craniofacial anomalies?

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

18. Who do you think has manages Salivary gland diseases?

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

19. Who treats a patient with obstructive sleep apnea?

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

20. Who treats a child with inability or difficult in mouth opening?

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

21. Which specialty has a role in treating facial swellings?

- Oral and maxillofacial surgery
- Plastic surgery
- ENT surgery
- General surgery
- Other , specify _____
- Don't know

22. Which specialty has a role in treating neck swellings?

- Oral and maxillofacial surgery
- Plastic surgery
- ENT surgery
- General surgery
- Other , specify _____
- Don't know

23. Carcinoma of sinuses can be treated by

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

24. Trigeminal neuralgia and atypical facial pain can be treated by

- Oral and maxillofacial surgeon
- Plastic surgeon
- ENT surgeon
- General surgeon
- Other , specify _____
- Don't know

25. How would you rate the level of service provided by oral and maxillofacial seniors and residents in TikurAnbessa Hospital?

- Excellent

- Good
- Neither good nor poor
- Poor
- Very poor