



# Self-Confidence, Perception and Attitude among Undergraduate Interns for Oral and Maxillofacial Surgery Studying in North India

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## Abstract

**Introduction:** The present research was carried out to assess the experience of undergraduate interns in oral and maxillofacial surgery among dental colleges of north India, in terms of self-confidence, perception and attitude. It further aimed at evaluating the preparedness of interns to handle clinical scenarios and recognize the problems faced during the training period.

**Material and Methods:** This study was carried out using a questionnaire survey which was divided into four sections. A- General information, B- self-confidence, C-perception of knowledge and D- Attitude. 2494 students filled out the survey voluntarily. Data was collected using a closed ended questionnaire with the help of google forms.

**Results:** Among 2494 interns included in the study, 822 were males (32.96%) and 1672 females (67.04). Mean age of participants was 22.22 + 1.54. 73% students said they would like to consider maxillofacial surgery as career.

**Conclusion:** Oral and maxillofacial surgery is a clinical branch of dentistry that requires persistent patient exposure to master the clinical skills, build self-confidence and follow ethical practices. With clinical experience comes self-confidence in performing oral surgical procedures and handling medical emergencies.

**Keywords:** Education; Dental education; Oral Surgery; Maxillofacial Surgery

## Abbreviations

OMFS: Oral and Maxillofacial Surgery; LA: Local Anaesthesia; BDS: Bachelor of Dental Surgery; IOPA: Interpret Intra-Oral Periapical; OPG: Orthopantomogram; CBCT: Cone Beam Computed Tomogram; VP: Virtual Patient.

## Introduction

Oral and Maxillofacial surgery (OMFS), a discipline that bridges dentistry and medicine, is concerned with surgical procedures of the head and neck. These include wide spectrum

of simple to complex procedures ranging from extraction of decayed or impacted teeth; incision and drainage of infections in the oral and maxillofacial region, preprosthetic surgeries, closed or open reduction and fixation of facial fractures, management of cleft lip and palate, Temporo-mandibular joint disorders, correction of facial deformities, cysts and tumours, oncology and reconstructive surgeries, aesthetic surgeries and many more. OMFS requires comprehensive knowledge, extensive training and guidance to master skills in this surgical field before entering the clinical practice [1].

At undergraduate level, the students are taught about clinical

examination and diagnosis, case history recording, local anaesthesia (LA) administration, intra-alveolar exodontia, suturing, alveoloplasty, inter-maxillary fixation, handling medical emergencies and dental management of medically compromised patients in a step-by-step manner; exposure to major surgeries as observers is also provided in some institutes. The clinical training accounts for approximately 75% of their undergraduate education, under the supervision of experienced faculty members [2]. Clinical rotation starts with discussions, demonstrations and viva-voce on trigeminal nerve, LA and nerve blocks followed by practice on skull models and then on patients. Owing to its vastness, exposure to blood, associated medical emergencies and requirement of precise knowledge of anatomy, OMFS is considered as a stressful subject by undergraduate students. Self-confidence is one factor that must be inculcated, encouraging the students into managing a greater number of patients while developing their clinical skills. During the learning phase, mistakes are bound to happen attributed by low self-esteem and poor perceived knowledge about anatomy, LA and exodontia, thus it is important for students to have an exhaustive experience of basic surgical procedures, enhanced by thorough theoretical knowledge [3-5].

Confidence building by the faculty members, creating awareness of resources among students and imparting knowledge in a student centric manner, can help them in opting OMFS as a promising career [6]. In this process, it is also essential to constantly obtain feedback from students regarding their clinical experience, curriculum, knowledge gained, expectations from faculty, their work environment

and hardships faced and to assess the quality of education being provided to them [7,8]. Here, we present a study that evaluates the experience of interns, during OMFS rotation in terms of self-confidence, perception and attitude. This study aims at understanding the expectations of interns and their perception regarding OMFS, thus, determining the strengths and limitations of OMFS education system from a student's perspective.

## Material and Methods

The interns enrolled in Bachelor of Dental Surgery (BDS) course of 80 dental colleges situated in north India were encouraged to participate in the present study. With 35% response rate, 2494 students from all these colleges filled out the survey voluntarily; their responses remained anonymous throughout the study. Data was collected using a closed ended questionnaire with the help of google forms. The questionnaire consisted of 15 questions divided in four categories- A) General Information B) Self-confidence- 6 questions, C) Perception- 7 questions, D) Attitude- 2 questions. The data was analysed and percentages were calculated accordingly.

## Results

Among 2494 interns included in the study, 822 were males (32.96%) and 1672 females (67.04). Mean age of participants was 22.22 + 1.54. The responses for the questionnaire were recorded as in Table 1.

Question	Yes or No	Responses	Percentage
<b>SECTION A- SELF CONFIDENCE</b>			
Question 1			
Do you feel that OMFS department has adequately prepared you for clinical aspects of oral surgery and medical emergencies that are encountered chair side?			
	Yes	1889	75.7
	No	605	24.3
Question 2			
Do you feel proficient in diagnosing cases and giving a suitable treatment plan?		2209	88.6
	Yes	285	11.4
	No		
Question 3			
Which of the following oral surgery procedures are you able to do independently?			

A. Grossly decayed tooth	Yes	2036	81.63
	No	458	18.36
B. Impacted tooth	Yes	254	10.18
	No	2240	89.81
C. Surgical excisions	Yes	475	19.04
	No	2019	80.95
D. Arch bar placement and removal cases	Yes	274	10.98
	No	2220	89.01
E. Dental infection cases	Yes	1281	51.36
	No	1213	48.63
F. Suturing	Yes	1648	66.07
	No	846	33.92
G. Pericoronitis	Yes		
	No	1126	45.14
		1368	54.85
Question 4			
Has the teaching received given you enough knowledge and confidence to undertake independent practice?			
	Yes	1685	67.56
	No	809	32.43
Question 5			
Are you able to do the diagnosis for the following?			
A. Odontogenic and non-odontogenic infections	Yes	1909	76.54
	No	585	23.45
B. Clinical manifestation of benign and malignant tumours		1260	50.52
	Yes	1234	49.47
	No		
C. Fracture cases of head and neck	Yes	1867	74.84
	No	627	25.1
Question 6			
Are you proficient enough to interpret the following radiographs?			

A. IOPA	Yes	2494	100
	No	0	0
B. OPG	Yes	2334	93.58
	No	160	64.15
C. CBCT	Yes	566	22.69
	No	1928	77.3
D. OCCLUSAL	Yes	1723	69.08
	No	771	30.91
E. BITEWING	Yes	1617	64.83
	No	877	35.16
<b>SECTION B- PERCEPTION OF KNOWLEDGE</b>			
Question 7			
Are you provided opportunities for research or extra-curricular activities related to OMFS?	Yes	1858	74.49
	No	636	25.5
Question 8			
In comparison to foreign university curriculum, do you find the curriculum of your college outstanding?	Yes	1498	60.06
	No	996	39.93
Question 9			
Are you provided with enough opportunities for hands on experience and practice for OMFS procedures?	Yes	1240	49.71
	No	1254	50.28
Question 10			
Are the OS faculty and staff members always accessible to answer questions and provide guidance?	Yes	2420	97.03
	No	74	2.96
Question 11			
Do you feel that OS lectures, presentation, lab and stimulations have adequately prepared for oral surgery procedures?	Yes	1848	74.09
	No	646	25.9
Question 12			
Is the learning of adequate Head and Neck anatomy sufficient in the clinical practice?	Yes	1509	60.5
	No	985	39.49
Question 13			

Did you have adequate knowledge about the local and general anesthesia to be able to use in the oral surgery procedures?	Yes	2128	85.32
	No	366	14.67
<b>SECTION C- ATTITUDE</b>			
Question 14			
Do you have interest in the OMFS branch of dentistry?		1874	75.14
	Yes	620	24.85
	No		
Question 15			
Do you consider choosing career in OMFS compared to other dental fields?	Yes	1831	73.41
	No	663	26.58

**Table 1:** Responses to questionnaire in terms of self-confidence, perception and attitude.

## Discussion

The most invasive procedures of mouth, jaws, face and neck, applied in dentistry are surgical procedures which are dealt by the specialty of Oral and Maxillofacial Surgery [9]. In the present study, a total of 2494 interns from over 80 dental colleges of North India were included in this study. Female participants accounted for 67.04% of the total sample population, which is consistent with the changing face of the dental workforce [10].

In the present study, interns turned out to be most confident in terms of preparedness for medical emergencies and handling chair side complications which is attributed to their increased clinical exposure after joining internship. They found it less challenging to extract grossly decayed, suturing and treating dental infection cases in comparison to other procedures like extraction of impacted teeth, treatment of pericoronitis, arch bar placement/removal, incision and drainage and surgical excision of cysts which is comparable with the studies by Cabbar, et al. [3] and Kamal, et al. [10]. This can be attributed to the fact that more extensive procedures are done by the post-graduates. 62% interns, in the study by Parikh, et al. [11] felt that they could confidently perform extractions but at the same time 42.2% of them said that their training was not sufficient for managing medical emergencies [11]. Exposure to extensive cases along with cleft lip and palate, trauma cases and pathologies should be given to students at the undergraduate level under the guidance of faculty.

Majority of the participants in this study were able to interpret intra-oral periapical (IOPA), occlusal, bitewing radiographs as well as orthopantomogram (OPG) however, many faced difficulties in the interpretation of cone beam computed tomogram (CBCT). It is important for the students to be able to interpret a CBCT scan as now-a-days this particular

scan is taking over all other radiography techniques and is a must for diagnosis of lesions of the jaws. Hence, teaching interpretation of CBCT during BDS. Roshene R, et al. [12] also considered it is significant to start the training for CBCT at undergraduate level for the skill development [12]. In terms of perception, maximum interns considered dental college experience to be positive, stated that enough opportunities were given to them for hands-on experience and reported that their faculty members were always available to them for guidance. Research forms the backbone of evidence based clinical management of diseases, thus introducing research and literature at undergraduate level has become a must with the changing scenario of disease management. Inculcating the art of research and providing the students with evidence based interactive learning, is need of the hour to match international standards. In the present study, majority of interns reported that they were given opportunities for research and publication.

Participants of the present study stated that demonstration on skull models were helpful in preparing them for real life clinical procedures. Lund et al studied the attitude of students towards two simulation methods, Virtual Patient (VP) Simulation system (Web-SP) for training in clinical reasoning and a mandibular third molar surgery simulator with tactile feedback, providing hands on training in the bone removal and tooth sectioning for trans-alveolar extractions. Authors agree upon the fact that introduction of simulation training is beneficial for developing good clinical skills [13]. Thus, we recommend inclusion of simulation models in OMFS training in India. Other dental specialties provide good hands-on pre-clinical experience to dental students whereas, such pre-clinical experience might be lacking in OMFS. Simulation of real-life situations on models would help students in developing good clinical skills without the risk of complications, once confident with models, students can be allowed to work on patients.

The perception regarding OMFS in terms of research, learning and hands-on opportunities nearly, 75% of participants found OMFS curriculum to be engaging but a smaller number of students found it to be at par with international dental curriculum. In a study by Padmapriya, it was stated that including best practices from western dental education system into Indian dental curriculum can help in upgrading our education system and be at par with international standard of dental education, we agree with the same [14]. Nearly 60% of the interns felt that the head and neck anatomy taught to them was sufficient to practice in OMFS but 40% were not in the favour. Hence, it becomes important that complete anatomy should be taught to the students at undergraduate level. On the contrary, students found the knowledge about anaesthesia taught in dentistry to be adequate to practice. In a study by Rehman, et al. [6] only 37% participants agreed on considering OMFS as their career which is comparable to another study, according to which 40.8% of the participants wanted to specialize in OMFS as surgery which provided them with internal satisfaction whereas in a study by Parikh, et al. 77% intern participants regarded OMFS to be a highly specialized field and 58% wanted to pursue OMFS as post-graduation [6,11]. In the present study more than 50% of the participants stated that OMFS could be a promising career option for them to consider. The dental education in the Indian scenario has been exponentially growing, hence age-old curriculum requires revision as per the requirements of modern dentistry. As it is an old saying, mind doesn't know, what eyes don't see, we emphasize on clinical scenario-based education backed by literature evidence over classroom-based teacher centric education. We suggest that the OMFS curriculum globally should be such that a newly pass out undergraduate should be capable enough to perform intra-alveolar exodontia, intramaxillary fixation, suturing and some other basic oral surgical procedures alongside well-managing medical emergencies and medically compromised patients, independently. In this process, it is also essential to constantly obtain feedback from students. Omar, et al. and Cabbar, et al. suggest that regular feedback from students helps in building cognitive, psychomotor, and interpersonal skills among students and at the same time helps in monitoring the quality of education [3,15].

There are certain limitations to the present study as well, it does not include questions to assess the skill of clinical examination and diagnosis, and neither are there any questions related to major surgery experience. Knowledge regarding ethical implications of surgery have also not been included. However, this study is the first step in ladder and can be expanded by including more such questions that can help to broaden the perspective of students and stakeholders of OMFS, we aim at conducting a longitudinal study to understand the long-term impact of self-confidence gained during internships on professional practice in oral and

maxillofacial surgery.

## Conclusion

OMFS is a clinical branch of dentistry that requires persistent patient exposure to master the clinical skills, build self-confidence and follow ethical practices. Lectures and simulations give necessary initial boost which should be followed by exhaustive clinical exposure. With clinical experience comes self-confidence in performing oral surgical procedures and handling medical emergencies, hence an optimistic attitude and interest to opt OMFS as a career option is developed.

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