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Perception of the role of oral and maxillofacial surgeons among Peruvian health professionals and students

Percepción del rol del cirujano bucal y maxilofacial en profesionales y estudiantes del área de la salud en Perú

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Abstract

Introduction: Practicing oral and maxillofacial surgery in Peru is challenging due to the lack of knowledge of health professionals on the role of oral and maxillofacial surgeons.
Objective: To assess the perception of the role of oral and maxillofacial surgeons among Peruvian physicians, dentists, and medical and dentistry students.
Materials and methods: Cross-sectional, observational, descriptive study conducted in 2018. The sample consisted of 200 physicians, dentists, and medical and dentistry students from the city of Arequipa, Peru, who were distributed in 4 groups of 50 members each. The questionnaire covered 20 clinical situations and was divided into 5 specific conditions: facial trauma, pathology, reconstructive surgery, oral surgery, and cosmetic and functional surgery. Respondents were asked to indicate the specialist they would refer their patients to for treating each condition (plastic surgeon, otolaryngologist, oral and maxillofacial surgeon and head and neck surgeon).
Results: 90% percent of physicians and medical students had a negative perception of the role of oral and maxillofacial surgeons. In contrast, dentists and dentistry students had a positive perception (64% and 58%, respectively).
Conclusions: Most physicians and medical students have a negative perception of the role of oral and maxillofacial surgeons. Consequently, medical schools should give priority to the development of programs and courses that address the importance of the role and work of other health professionals, which will allow better multidisciplinary work, and therefore, the provision of more comprehensive healthcare services.
Keywords: Oral Surgery; Students, Medical; Dentists; Perception (MeSH).

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Resumen

Introducción. La práctica profesional de la cirugía bucal y maxilofacial en Perú se ve enfrentada a múltiples dificultades debido a la falta de conocimiento de los profesionales de la salud sobre el rol del cirujano bucal y maxilofacial.
Objetivo. Evaluar la percepción del rol del cirujano bucal y maxilofacial en médicos, odontólogos y estudiantes de medicina y odontología del Perú.
Materiales y métodos. Estudio observacional, descriptivo y transversal realizado en 2018. Muestra: 200 médicos, odontólogos, estudiantes de medicina y de odontología de la ciudad de Arequipa, Perú, distribuidos de manera equitativa en 4 grupos de 50 miembros. El cuestionario cubrió 20 situaciones clínicas y se dividió en 5 categorías específicas: trauma facial, patología, cirugía reconstructiva, cirugía bucal y cirugía estética y funcional. Se solicitó a los encuestados indicar el especialista al que remitirían los pacientes para tratar cada afección (cirujano plástico, otorrinolaringólogo, cirujano bucal y maxilofacial, o cirujano de cabeza y cuello).
Resultados. El 90% de los médicos y estudiantes de medicina tuvieron una percepción negativa del rol del cirujano bucal y maxilofacial. Por el contrario, los odontólogos y estudiantes de odontología tuvieron una percepción positiva: 64% y 58%, respectivamente.
Conclusiones. La mayoría de médicos y estudiantes de medicina tienen una percepción negativa del rol del cirujano bucal y maxilofacial, por lo que es necesario que las escuelas de medicina den prioridad al desarrollo de programas y cursos en los que se aborde la importancia del rol y el trabajo de los demás profesionales de la salud, lo que permitirá un mejor trabajo multidisciplinario y, en consecuencia, una atención en salud más integral.
Palabras clave: Cirugía bucal; Estudiantes de medicina; Odontólogos; Percepción (DeCS).

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Introduction

In Peru, oral and maxillofacial surgery is a dental specialty recognized by the Dental Surgeon's Work Law.[1] Oral and maxillofacial surgeons (OMFCS) are responsible for the diagnosis and medical or surgical treatment of mouth diseases, jaw injuries and disorders, facial bone fractures, odontogenic infections, dentofacial deformities, as well as the performance of maxillofacial cosmetic surgery procedures.[2,3]

Although this specialty has a key role in the health area, the scope and role of OMFCS is still unclear among health professionals, significantly affecting the timely and appropriate treatment of patients with oral and maxillofacial pathologies. No studies have been conducted in Peru, but, in Brazil, Rocha *et al.*[4] conducted a study to determine the perception of oral and maxillofacial surgery among health professionals and compared the results with another study conducted ten years later.[5] Based on the findings, they concluded that the practice and relevance of this specialty increased in the country during that period. In the UK, Sheikh *et al.*[6] performed a descriptive study to determine the perception of dental and medical students and professionals regarding the scope of oral and maxillofacial surgery and found that most respondents correctly associated the specialty with its scope. In Australia, Lababidi *et al.*[7] determined the number of referrals of patients to oral and maxillofacial surgeons among general practitioners and concluded that most respondents had adequate knowledge of the role of OMFCS.

The objective of this study was to evaluate the perception of the role of OMFCS among medical and dental students and professionals in order to establish measures that improve the status of this specialty in Peru.

Materials and methods

A cross-sectional, observational, descriptive study was conducted in 2018. The population consisted of physicians and dentists working in public hospitals and final-year dental and medical students from two private universities in Arequipa, Peru.

The sample size was determined by non-probabilistic sampling, as the population of dentists working in these institutions is small; 50 subjects met the inclusion criteria. The other groups had the same size as the dentists' group, reaching a sample of 200: 50 doctors, 50 dentists, 50 medical students and 50 dental students.

The inclusion criteria were being a general or specialist physician or dentist working only in public hospitals and being a final-year medical or dental student at a private university in Arequipa. The exclusion criterion was not being willing to take part in the study.

Surveys were conducted through a self-administered questionnaire made in person at the hospitals and universities. The questionnaire was adapted based on Rocha *et al.*[4] according to the clinical conditions that are treated by OMFCS in Peru. In order to determine its validity, a judgment of five experts was carried out and the Aiken's V coefficient was calculated, obtaining a value V=0.967. To estimate internal consistency reliability, the Kuder-Richardson formula was used, obtaining a value of 0.921.

The instrument used consisted of closed questions inquiring about 20 clinical situations, divided into 5 categories:

Facial trauma: jaw fractures, fractures of the upper jaw, orbitozygomatic fractures, dentoalveolar fracture, panfacial fracture.
Pathology: biopsy to confirm diagnosis of oral cancer, cystic and tumorous lesions of the salivary glands, jaw tumors and cysts, moderate and severe odontogenic infections.
Reconstructive surgery: cleft palate, cleft lip, alveolar bone graft, temporomandibular joint disorders.
Oral surgery: dental implants, third impacted molar.
Aesthetic and functional surgery: problems with facial appearance due to alterations in dental occlusion, prognathism and maxillary and mandibular retrognathia.

Respondents had to indicate which specialist they would refer the patient to for treating each condition: plastic surgeon, otolaryngologist, OMFCS, or head and neck surgeon.

The variable perception of the role of OMFCS was measured in the following way: if the respondent referred the patient to the OMFCS in the hypothetical clinical situations evaluated, it was considered a positive perception, and if they referred the patient to other specialists, it was considered a negative perception.

A score of 0 was assigned if they chose another professional and a score of 1 if they chose the OMFCS. Based on that, and considering the number of questions per condition, the following scores were established: facial trauma: 0-3 negative perception, 4-5 positive perception; pathology: 0-2 negative perception, 3-4 positive perception; reconstructive surgery: 0-2 negative perception, 4-5 positive perception; oral surgery: 0-1 negative perception, 2 positive perception; cosmetic and functional surgery: 0-3 negative perception, 4-5 positive perception; overall perception: 0-11 negative perception, 12-20 positive perception.

Data management and statistical analysis were performed using SPSS version 23.00. Data was entered directly into SPSS and all entries were validated. Frequency tables were used to present the data, while the test χ^2 was used to compare responses among health professionals. A $p<0.05$ value was considered statistically significant.

The study was conducted in accordance with the ethical principles for research involving human subjects of the Declaration of Helsinki.[8] This study was endorsed by the participating hospitals and universities, and approved by the Ethics Committee of the Universidad Científica del Sur through Minutes No. 033-2018-POS99 of October 12, 2018. Informed consent was obtained from all participants, who voluntarily agreed to take part in the study.

Results

The demographics of the respondents were analyzed. The predominant age range among medical and dental professionals was 26-40 years with a percentage of 68% and 64%, respectively; the age range among medical and dental students was 20-25 years with a percentage of 78% and 62%, respectively (Table 1). With regard to the distribution by sex, there were more men in the groups of physicians (70%) and dentists (52%), and an equal distribution (50%) in the group of medical students; there were more women (74%) in the dental students group.

Table 1. Sample distribution by age.

Study group	Age range						Total	
	20-25 years		26-40 years		≥41 years			
	n	%	n	%	n	%	n	%
Physicians	0	0.0	34	68.0	16	32.0	50	100.0
Dentists	5	10.0	32	64.0	13	26.0	50	100.0
Medical students	39	78.0	11	22.0	0	0.0	50	100.0
Dental students	31	62.0	19	38.0	0	0.0	50	100.0
Total	75	37.5	96	48.0	29	14.5	200	100.0

Source: Own elaboration.

Regarding the results of the five categories, differences were found between the percentages of negative perception of the four groups (p<0.001) for facial trauma. Physicians, dentists, and medical students had a negative perception (74%, 56% and 86%, respectively), while dental students had a lower negative perception (46%) (Table 2).

Table 2. Perception of the role of oral and maxillofacial surgeons among medical and dental professionals and students.

		Physicians		Dentists		Medical students		Dental students		p
Conditions		n	%	n	%	n	%	n	%	
Facial trauma	Negative perception	37	74.0	28	56.0	43	86.0	23	46.0	<0.001*
	Positive perception	13	26.0	22	44.0	7	14.0	27	54.0	
Pathology	Negative perception	44	88.0	22	44.0	39	78.0	26	52.0	
	Positive perception	6	12.0	28	56.0	11	22.0	24	48.0	<0.001*
Reconstructive surgery	Negative perception	49	98.0	34	68.0	46	92.0	35	70.0	
	Positive perception	1	2.0	16	32.0	4	8.0	15	30.0	<0.001*
Oral surgery	Negative perception	4	8.0	0	0	5	10.0	6	12.0	
	Positive perception	46	92.0	50	100.0	45	90.0	44	88.0	0.756
Aesthetic and functional surgery	Negative perception	25	50.0	7	14.0	31	62.0	8	16.0	
	Positive perception	25	50.0	43	86.0	19	38.0	42	84.0	<0.001*
Overall	Negative perception	45	90.0	18	36.0	45	90.0	21	42.0	
	Positive perception	5	10.0	32	64.0	5	10.0	29	58.0	<0.001*

* χ^2Source: Own elaboration.

In the pathology category, significant differences were observed between the percentages of negative perception of the four groups (p<0.001). Physicians, medical students, and dental students had a negative perception (88%, 78% and 52%, respectively); only dentists had a positive perception (56%) (Table 2).

In the reconstructive surgery category, significant differences were found between the four groups (p<0.001). In general, participants would not refer a patient requiring facial reconstructive surgery to OMFCS; therefore, all four groups had a negative perception: physicians by a greater percentage (98%), followed by medical students (92%), dental students (70%) and dentists (68%) (Table 2).

Oral surgery was the only category where no significant differences were observed between the percentages of the four groups (p=0.756). Physicians, dentists, medical students, and dental students had a positive perception of 92%, 100%, 90% and 88% respectively.

In the aesthetic and functional surgery category, significant differences were found between the percentages of the four groups (p<0.001). Negative perception was higher among medical students (62%), followed by doctors (50%), dental students (16%), and dentists (14%) (Table 2).

Finally, the overall perception, which included the five categories, showed significant differences among professionals and students (p<0.001). Physicians had an overall negative perception of 90%, while dentists had an overall positive perception of 64%. Finally, medical students had an overall negative perception of 90%, while dental students had a positive perception of 58% (Table 2).

Discussion

Currently, in many countries, most health professionals, as well as medical and dental students, acknowledge the relevance of the oral and maxillofacial surgery specialty and its field of action.[3-6,9] In Peru, although the role of OMFCS in the area of health is known, there is still a lack of understanding of their importance among professionals and students, a situation that is confirmed for the first time with the results of this study. This research was carried out in the city of Arequipa and, therefore, the results may not be generalized to other places in the country with different contexts; however, this is the first step to produce the necessary evidence to generate changes in the country. A possible limitation of the study

was the initial lack of interest of some participants, but this was solved once the importance of the objectives was explained to them.

The results of the present study show that most physicians, dentists, and medical students would not refer patients with facial trauma to the OMFCS. This differs from the studies conducted by Labadibi *et al.*[7] and Ifeacho *et al.*[10], in which almost all physicians, dentists and medical students did refer patients with this type of condition to the OMFCS. This may be explained by the fact that this specialty has been officially recognized for more than 40 years in Australia[7] and the United States[10], countries where the studies were conducted.

According to the findings of the present study, a higher percentage of dental students would refer a patient with facial trauma to the OMFCS, a result that coincides with that reported in the studies by Rocha *et al.*[4] and Rocha *et al.*[5], in which dental students had a positive perception of the specialty. It is concerning that in the present study most dentists referred these patients to other specialists, which may be a consequence of the scarce information about the scope of the specialty in dental training in Peru. Therefore, the role of the OMFCS is not clear for these students.

Physicians, medical students and dental students considered that OMFCS are not the most competent specialists to treat oral injuries, concerning results that contrast with studies conducted in Australia[7] and Kuwait.[11] Based on these findings, it can be concluded that the participants do not trust the OMFCS for the management of oral lesions since only the dentists had a positive perception in this category, although the percentage was not conclusive.

For the treatment of conditions requiring reconstructive surgery, it was found that participants in all four groups did not refer the patients to the OMFCS. These results are partially consistent with those reported in the studies of Rocha *et al.*,[4] Rocha *et al.*[5] and Ameerally *et al.*,[12] where physicians and medical students predominantly referred the patients to the plastic surgeon, while most dentists and dental students referred them to the OMFCS. Currently, it is clear that patients requiring reconstructive surgery need to be treated by professionals from different specialties with formal training and experience in all phases of care.[2,13]

In the oral surgery category, most respondents preferred to refer patients to the OMFCS. This coincides with the study carried out in 1996 by Hunter *et al.*[14] and shows that, unlike the others, this area of work of the OMFCS is well recognized among the population of Arequipa.

With regard to aesthetic and functional surgeries, physicians referred patients to the OMFCS and other specialists in the same proportion. Dentists and dental students had a positive perception, while medical students had a negative perception since most preferred to refer the patients to other specialists, perhaps because of the conception that all cosmetic procedures should be performed by a plastic surgeon.

On overall perception, doctors and medical students had a negative perception, while dentists and dental students had a positive perception. These results are worrying when compared to most existing studies, in which the role of oral and maxillofacial surgeons is well recognized by health professionals.[4-7,15]

In Peru, most physicians and medical students do not know the role of OMFCS and are not clear about what conditions these specialists treat, which can lead to the incorrect referral of patients to other specialists. Furthermore, it is alarming that dentists and dental students do not understand clearly the role of OMFCS, taking into account that, although in Peru this specialty is recent, it has existed for approximately 20 years.[16] This does not explain finding a reality that is not very encouraging.

For patients to receive the best comprehensive treatment of conditions in the oral cavity and maxillofacial region, health care providers must have a good understanding of what OMFCS do and teamwork between specialties should be encouraged. The establishment of national guidelines to improve referral criteria should also be promoted. Oral and maxillofacial surgeons have the responsibility to inform their community about the scope of their specialty given the results found in this study.

Conclusions

Physicians and medical students have a negative perception of the role of OMFCS, so it can be concluded that they do not know the scope of this specialty and, therefore, are unaware of its importance for the team of health professionals. On the other hand, dentists and dental students have a better perception; however, it is not the expected one considering that oral and maxillofacial surgery is a dental specialty.

Undergraduate education, both in dental and medical schools, should be comprehensive and emphasize the field of action of each specialist to avoid future misconceptions that could be detrimental to the timely treatment of patients.

Proper understanding of the scope of this specialty will improve the criteria for referral of patients in the country. It is therefore necessary that medical schools give priority to the development of programs and courses that address the importance of the role and work of other health professionals. This will enable better multidisciplinary work and, consequently, more comprehensive health care.

Conflicts of interest

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