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Current Status of Instagram Utilization by Oral and Maxillofacial Surgery Residency Programs: A Comparison With Related Dental and Surgical Specialties



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Purpose: The utility of social media in oral and maxillofacial surgery (OMS) residency programs has never been investigated, despite the increasing popularity of such platforms in academic medicine. As a specialty that strives for constant innovation, it is important for OMS programs to participate in the emerging concept of incorporating social media into medical and surgical education. Therefore, this study aimed to evaluate the use of Instagram in OMS residency programs in the United States.

Methods: A cross-sectional study of Instagram search data was performed. The Instagram accounts of OMS residency programs were searched, and their metrics were retrieved from June 1 to June 5, 2020. Factors correlated with the total number of followers were identified. The use of Instagram in OMS residency programs was compared with that in other related dental and surgical residency programs.

Results: Only 17 (18.7%) of 91 OMS residency programs had an Instagram account. The number of programs with Instagram accounts exhibited linear growth ($R^2 = 0.98$) since December 2018. The median number of followers was 326 (range, 94 to 2,152), and the median number of posts was 9 (range, 2 to 40). The number of Instagram followers was positively correlated with the number of accounts followed, the number of total posts, and the number of educational posts, and it was negatively correlated with the Instagram engagement rate. Instagram presence did not differ among residency programs for orthodontics (18.2%), periodontics (5.5%), and OMS ($P = .067$). However, Instagram presence in OMS residency programs was significantly lower than that in plastic surgery (74.7%; $P < .001$) and otolaryngology residency programs (35.0%; $P = .011$).

Conclusions: Instagram use in OMS residency programs is growing but is significantly lower than that in related surgical fields. This may represent a missed opportunity for promoting collaboration and efficiently delivering useful information to trainees.

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Introduction

Social media has become an inexorable part of modern society; approximately 7 in 10 Americans currently use social media to connect with friends, share information, and for entertainment purposes.^{1,2} Among the most popular platforms such as Facebook, Twitter, and Instagram, the latter has experienced especially dramatic growth since its inception in 2010.³ It has been reported that Instagram has approximately 1 billion active users every month, and 37% of American adults use Instagram.⁴ Moreover, Instagram boasts an engagement level per post that is 10 times higher than that of Facebook and 30 times higher than that of Twitter.⁵ Hence, it is no surprise that various industries, including higher education, now use social media platforms such as Instagram as a channel for marketing, advertising, advocacy, and news updates.^{4,5}

The increasing popularity of social media was initially met with wariness by the medical field because of the potential medicolegal issues and implications for professionalism.^{6,7} However, instances of early adaptation have been well-described in the literature; for example, cosmetic plastic surgeons predominantly use social media for marketing purposes.⁸ This social media success experienced by private practitioners in their respective fields is now being eagerly emulated by academic training programs and trainees, as evidenced by an influx of social media accounts of residency programs on platforms such as Instagram.⁹ Academic departments in medicine are now increasingly using social media platforms for self-promotion, to facilitate scholarly collaborations and for talent recruitment.⁹

Although the field of oral and maxillofacial surgery (OMS) could also benefit greatly from the strategic utilization of social media to promote advancements in the field and attract competitive applicants to the specialty, OMS training programs have traditionally shied away from using online platforms to their full extent.¹⁰ Furthermore, the usage of social media in academic OMS has never been investigated. This study aimed to characterize the current use and popularity of social media, specifically Instagram, by academic OMS programs and compare the trends and utilization of Instagram by OMS departments with those of related dental and surgical specialties.

Methods

DATA ACQUISITION

This study was exempt from institutional review board approval because it did not utilize any patient information and all data used were publicly available online. The 2019 list of OMS residency programs

displayed on the website of the American Association of Oral and Maxillofacial Surgeons was used for reference.¹¹ For the purpose of comparison, websites of the American Association of Orthodontists, American Academy of Periodontology, American Council for Academic Plastic Surgeons, and Electronic Residency Application Service of the Association of American Medical Colleges were used to compile a list of residency programs for orthodontics, periodontics, plastic surgery, and otolaryngology, respectively.¹²⁻¹⁵ Canadian programs, osteopathic programs, and military programs were excluded from this study.

The Instagram search function was utilized to identify the OMS residency program accounts. Both full and abbreviated program names and variations of the specialty name, such as “omfs,” “oms,” “oral surgery,” and “maxillofacial,” were used in various combinations during the search. When a list of OMS program accounts was compiled, we searched other programs followed by the identified accounts to ensure that no programs were accidentally missed. We verified that the accounts were managed by the residency program and not owned by any one individual resident/faculty member. The same methods were used to compile a list of Instagram accounts of residency programs of the related dental and surgical specialties.

The numbers of followers and posts for each Instagram account across all specialties were retrieved from each individual account page. The following data were also retrieved from the Instagram accounts of OMS residency programs: number of accounts followed, category of posts, date of account creation or first post, and date of the last post. Instagram engagement rates were obtained using SocialStats. Moreover, information about the presence of Instagram accounts of the residency program leadership (program directors or department chairs) and affiliated hospitals, the ranking of affiliated medical schools (obtained from the U.S. News and World Report 2021), type of residency program (single vs dual degree), and the total number of resident positions was obtained for OMS residency programs with Instagram accounts.^{11,16}

Instagram posts were categorized as educational, departmental, academic and professional, social, and other. Posts that intended to educate viewers about diseases and surgical techniques and those that included operative photographs were defined as educational posts. Posts containing department-related information, news and updates, and self-promotional posts such as advertisements or faculty/resident highlights were categorized as departmental. Academic and professional posts included content regarding research, academic meetings and conferences, guest lectures, and professional events. Any posts that included content regarding resident

life, networking, and events outside the workplace were categorized as social. Posts that did not fit the description for any of the above-mentioned categories were defined as other. Instagram posts were categorized by two authors (S.Y. and B.W.) independently, and any discrepancies were resolved after discussion. Instagram accounts were considered inactive if there were no posts within the past 3 months. All data were collected between June 1 and June 5, 2020.

STATISTICAL ANALYSIS

Categorical variables are presented as numbers with percentages, and continuous variables are presented as medians with ranges. Regression analysis was used to analyze the number of OMS residency programs that had Instagram accounts over time. The Spearman correlation or Mann-Whitney *U* test was used to assess the correlation between the number of Instagram followers and other parameters, as appropriate. The Chi-square and Kruskal-Wallis tests were used to compare categorical and continuous variables, respectively, regarding Instagram utilization (presence of Instagram accounts, number of followers, and number of posts) among multiple dental and surgical specialties; if a significant *P* value was obtained, the Chi-square and Mann-Whitney *U* tests were subsequently used, respectively, with a Bonferroni correction for multiple pairwise comparisons. *P* values < .05 were

considered statistically significant. All statistical analyses were performed using SPSS version 24.0 (IBM, Armonk, NY).

Results

Seventeen (18.7%) of the 91 OMS residency programs that met the inclusion criteria had associated Instagram accounts. Since the creation of the first account in December 2018, the number of OMS residency programs with Instagram accounts exhibited linear growth ($R^2 = 0.98$), with 5 new accounts being made within 3 months, from the beginning of March to the end of May 2020 (Fig 1).

Table 1 summarizes the various metrics used to evaluate the characteristics of OMS residency programs and their Instagram accounts. The median number of Instagram followers was 326 (range, 94 to 2,152), and the median number of posts was 9 (range, 2 to 40). Of the total of 264 posts, 119 (45.1%) were educational, 74 (28.0%) were departmental, 31 (11.7%) were academic and professional, 24 (9.1%) were social, and 16 (6.1%) were in the other category. Of the 17 programs that had Instagram accounts, the residency program leadership of 5 programs had separate Instagram accounts that were personal or professional in nature. Regarding the type of OMS residency programs, 15 (88.2%) were dual-degree programs, and 2 (11.8%) were single-degree programs.

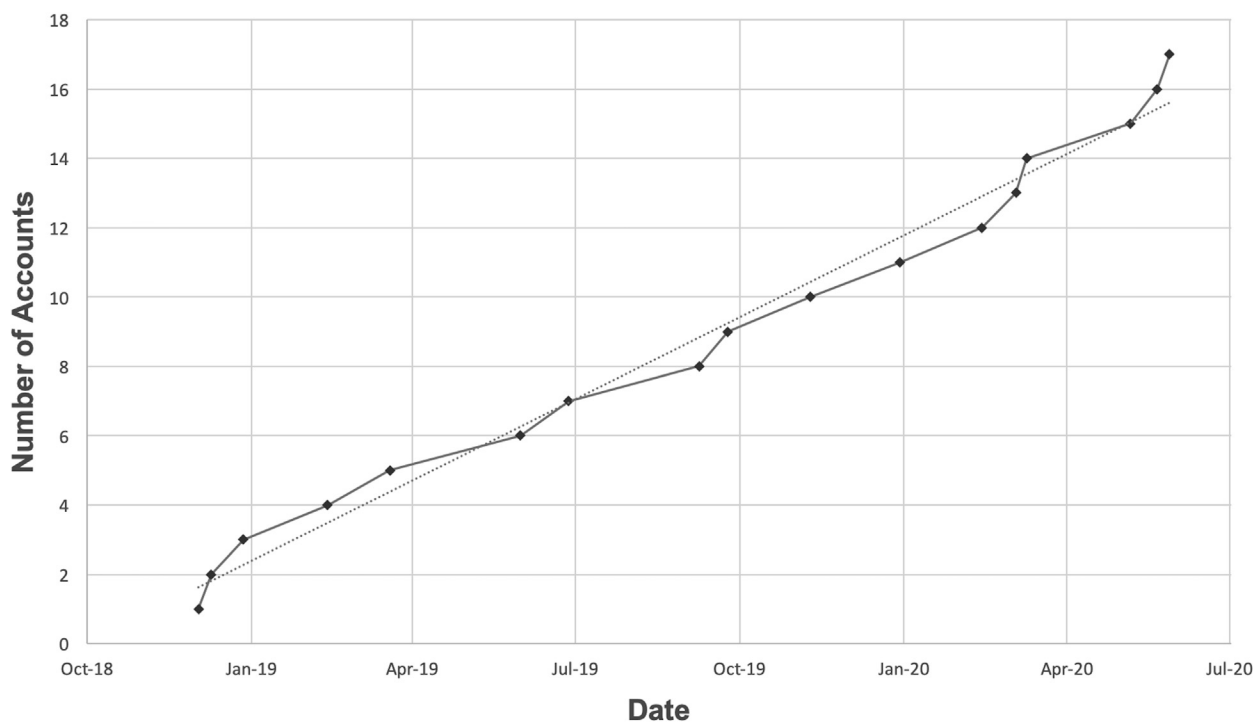


FIGURE 1. Cumulative number of oral and maxillofacial surgery residency programs with Instagram accounts over time. The trendline exhibits linear growth ($R^2 = 0.98$).

Table 2 shows the Spearman correlation coefficients and the respective *P* values obtained for the correlation between the number of Instagram followers and other parameters. The number of followers was positively correlated with the number of accounts followed, the number of total posts, and the number of educational posts, and it was negatively correlated with the Instagram engagement rate. Moreover, the number of followers in active accounts (median 486) was greater than that in inactive accounts (median, 188.5; *P* = .010). However, there was no difference in the number of followers, depending on whether residency program leadership (*P* = .879) or affiliated hospitals (*P* = .956) had Instagram accounts.

Table 3 compares the Instagram activity of OMS residency programs and those of 2 related dental specialties. Twelve (18.2%) of 66 orthodontic and 3

(5.5%) of 55 periodontal residency programs had Instagram accounts. The presence of Instagram accounts did not differ among orthodontic, periodontal, and OMS residency programs (*P* = .067). Moreover, the number of Instagram followers and posts did not differ among the residency programs of these 3 dental specialties (*P* = .159 and .141, respectively).

Table 4 presents the comparison of the Instagram activity of the OMS and 2 other related surgical residency programs. Seventy-four (77.4%) of 99 plastic surgery and 36 (35.0%) of 103 otolaryngology residency programs had Instagram accounts. Instagram accounts were more common in plastic surgery and otolaryngology residency programs than in OMS programs (*P* < .001 and .011, respectively). The number of Instagram followers was greater in plastic surgery than in OMS residency programs (*P* < .001), but it was not different between otolaryngology and OMS residency programs (*P* = .607). The number of Instagram posts in plastic surgery and otolaryngology residency programs was greater than that in OMS residency programs (*P* < .001 and .004, respectively).

Table 1. CHARACTERISTICS OF ORAL AND MAXILLOFACIAL SURGERY RESIDENCY PROGRAMS AND THEIR INSTAGRAM ACCOUNTS

Variables	Values
Number of followers	326 (94-2,152)
Number of accounts followed	79 (19-916)
Number of posts	9 (2-40)
Account age, days	251 (4-547)
Instagram engagement rate, %	10.2 (3.7-30.7)
Category of posts	
Educational	119 (45.1%)
Departmental	74 (28.0%)
Academic and professional	31 (11.7%)
Social	24 (9.1%)
Other	16 (6.1%)
Current status of Instagram accounts	
Active	13 (76.5%)
Inactive	4 (23.5%)
Instagram accounts of residency program leadership	
Present	5 (29.4%)
Absent	12 (70.5%)
Instagram accounts of affiliated hospitals	
Present	13 (76.5%)
Absent	4 (23.5%)
Ranking of affiliated medical schools	
Ranked in top 50	9 (52.9%)
Not ranked in top 50	8 (47.1%)
Type of residency programs	
Single degree	2 (11.8%)
Dual degree	15 (88.2%)

Data presented as median (range) for continuous measures and number (%) for categorical measures.

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Discussion

The use of social media is widespread in the general population and among medical professionals. Academic departments in the United States have adopted this trend, and some fields are beginning to encourage and incorporate social media into trainee education.^{17,18} Therefore, we analyzed the current utilization of Instagram by OMS training programs and found that fewer than 20% of programs were utilizing

Table 2. EVALUATION OF THE CORRELATION BETWEEN THE NUMBER OF INSTAGRAM FOLLOWERS AND OTHER PARAMETERS USING SPEARMAN CORRELATION ANALYSIS

Parameters	Correlation Coefficient	<i>P</i> Value
Number of accounts followed	0.691	.002
Number of total posts	0.805	<.001
Number of educational posts	0.575	.016
Number of departmental posts	0.217	.404
Number of academic and professional posts	0.275	.285
Number of social posts	0.026	.921
Account age, days	0.213	.411
Instagram engagement rate	-0.564	.018
Ranking of affiliated medical schools	0.233	.422
Total number of resident positions	0.066	.802

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Table 3. COMPARISON OF THE INSTAGRAM ACTIVITY OF RESIDENCY PROGRAMS IN OMS AND TWO RELATED DENTAL SPECIALTIES

	Orthodontics (n = 66)	Periodontics (n = 55)	OMS (n = 91)	P Value*
Presence of Instagram accounts	12 (18.2%)	3 (5.5%)	17 (18.7%)	.067
Number of followers	143.5 (31-1,367)	293 (279-401)	326 (94-2,152)	.159
Number of posts	17.5 (1-616)	100 (22-109)	9 (2-40)	.141

Data presented as number (%) for categorical measures and median (range) for continuous measures.

Abbreviation: OMS, oral and maxillofacial surgery.

* P value obtained from the Chi-square or Kruskal-Wallis test, as appropriate.

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Instagram. To the best of our knowledge, this is the first study to evaluate the usage of social media in the field of OMS.

The utilization rate of Instagram by OMS residency programs did not differ from that of other related dental specialties. However, it fell significantly short of the utilization rates demonstrated by related surgical fields, including plastic surgery and otolaryngology. The number of new Instagram accounts for plastic surgery residency programs grew rapidly from 23% in September 2017 to 56.8% in June 2019, and to 76.5% in this study conducted in June 2020.^{9,19} Although Instagram usage by otolaryngology residency programs was less than that of plastic surgery programs, its use in the former field also showed marked growth, from a mere 1% in April 2017 to 35.3% observed during this study.²⁰ Over the years, social media platforms have demonstrated their utility for educating trainees and patients, recruiting applicants, fostering scholarly networking and collaborations, promoting faculty, and highlighting expertise and research in the field of medicine.^{17,18,21-24} According to a survey among anesthesiology residency applicants, 53% of respondents considered that the presence of a residency-based social media account had an impact on their evaluation of prospective programs.²² Therefore, academic OMS departments may

potentially lag behind their counterparts in other fields because of the underutilization of social media platforms like Instagram and probably forfeit the opportunities and benefits only made available through such platforms.

Traditional websites were the main channels through which academic programs provided different types of information online before the social media boom. However, previous studies concluded that the content of surgical training program websites was largely inadequate, and those dedicated to OMS were no exception.^{10,25-27} These findings indicate the need for the improvement of the content on OMS program websites. Although it is a step in the right direction, traditional websites are not suitable for rapid, frequent, and timely updates. In contrast, the advantage of social media platforms lies in their ability to readily disseminate useful information to a wide audience. The need for rapid and efficient communication has become more important than ever in the coronavirus disease 2019 (COVID-19) era, during which person-to-person interactions have become restricted.²⁸ Although the overall Instagram utilization rate of OMS programs is still low, we expect an explosive growth in Instagram utilization and activity in the coming years, considering the fact that approximately 30% of current accounts were opened

Table 4. COMPARISON OF THE INSTAGRAM ACTIVITY OF RESIDENCY PROGRAMS IN OMS AND TWO RELATED SURGICAL SPECIALTIES

	Plastic Surgery (n = 99)	Otolaryngology (n = 103)	OMS (n = 91)	P Value*
Presence of Instagram accounts	74 (74.7%) ^a	36 (35.0%) ^b	17 (18.7%) ^{a,b}	<.001
Number of followers	1,111.5 (82-3,721) ^a	475 (6-1,071) ^c	326 (94-2,152) ^{a,c}	<.001
Number of posts	62 (0-505) ^a	34 (1-366) ^d	9 (2-40) ^{a,d}	<.001

Data presented as number (%) for categorical measures and median (range) for continuous measures.

P values of pairwise comparisons obtained from the Chi-square or Mann-Whitney U test, as appropriate: ^a <0.001; ^b 0.011; ^c 0.607; ^d 0.004.

Abbreviation: OMS, oral and maxillofacial surgery.

* P value obtained from the Chi-square or Kruskal-Wallis test, as appropriate.

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within 3 months of the declaration of the COVID-19 pandemic.

Despite being a powerful tool, social media has both benefits and hazards. Clinicians should be wary of the potential ethical and medicolegal implications associated with the undiscerning use of social media.^{6,7,19} Therefore, several medical societies have issued guidelines for the appropriate utilization of social media by medical professionals and trainees²⁹; however, no such guidelines have been put forth by any OMS organization. Therefore, it is essential to analyze the current utilization patterns and content of social media accounts of OMS departments to facilitate the creation of social media guidelines tailored specifically for OMS practitioners and trainees.

In addition to the number of accounts, Instagram activity can also be measured by the number of posts and followers. This study demonstrated that the number of followers was positively correlated with the number of posts and that the number of educational posts was positively correlated with the number of followers when the posts were divided into multiple subcategories. Although categorization of Instagram posts based on their content occasionally may not be precise and clearly defined, the fact remains that these residency program accounts probably have a large following of students and residents; therefore, increasing the proportion of educational posts may contribute to increasing the number of followers and vitalizing the accounts.

There are some limitations to this study. First, Instagram was the only mainstream social media platform analyzed in this study. Although we initially attempted to analyze other major social media platforms, we found during our search that the utilization rates of Facebook and Twitter by OMS programs were only 13.2 and 5.5%, respectively. Moreover, several accounts were inactive or lacked content altogether, making analysis difficult. Based on these findings, we concluded that it would be better to limit our study to Instagram, which showed the most promising utilization rate and activity. Second, we were not able to evaluate or prove the existence of any tangible benefits of Instagram for OMS programs. Studies in other fields have demonstrated the role of social media in promoting applicant recruitment and trainee education.²¹⁻²⁴ It was difficult to evaluate the impact of Instagram on applicant recruitment, education of trainees and patients, and inter-institutional academic collaboration because the median age of OMS program accounts in our study was only 8 months.

In conclusion, Instagram utilization by the field of OMS remains low in comparison to Instagram utilization by related surgical fields. This may represent a missed opportunity for oral and maxillofacial surgeons

considering the ubiquity of social media in modern society and its various benefits that have been reported by other specialties in medicine.

References

- Ortiz-Ospina E: The rise of social media. Available at: <https://ourworldindata.org/rise-of-social-media>. Accessed June 6, 2020
- Social media fact sheet. Available at: <https://www.pewresearch.org/internet/fact-sheet/social-media/>. Accessed June 6, 2020
- Walton J: Twitter vs. Facebook vs. Instagram: What's the difference?. Available at: <https://www.investopedia.com/articles/markets/100215/twitter-vs-facebook-vs-instagram-who-target-audience.asp>. Accessed June 6, 2020
- Chen J: Important Instagram stats you need to know for 2020. Available at: <https://sproutsocial.com/insights/instagram-stats/>. Accessed June 6, 2020
- Creating top performing posts on Facebook, Twitter, and Instagram. Available at: <https://www.smartinsights.com/social-media-marketing/social-media-platforms/creating-top-performing-posts-on-facebook-twitter-and-instagram/>. Accessed June 6, 2020
- Thompson LA, Dawson K, Ferdig R, et al: The intersection of online social networking with medical professionalism. *J Gen Intern Med* 23:954, 2008
- Greysen SR, Kind T, Chretien KC: Online professionalism and the mirror of social media. *J Gen Intern Med* 25:1227, 2010
- Wheeler CK, Said H, Prucz R, et al: Social media in plastic surgery practices: Emerging trends in North America. *Aesthet Surg J* 31:435, 2011
- Azoury SC, Mazzaferro DM, Piwnica-Worms W, et al: An update on social media in academic plastic surgery training programs: The Rising trend of likes, shares, and Retweets. *Ann Plast Surg* 10:1097, 2020
- Lee KC, Eisig SB, Koch A: Oral and maxillofacial surgery program websites Under-Report content related to resident recruitment and education. *J Oral Maxillofac Surg* 76:1841, 2018
- American Association of Oral and Maxillofacial Surgeons. OMS residency training programs 2019. Available at: https://www.aaoms.org/docs/education_research/edu_training/2019_aomresidency_omsprogram.pdf. Accessed May 29, 2020
- American Association of Orthodontists. Accredited orthodontic programs. Available at: <https://www.aaoinfo.org/education/accredited-orthodontic-programs>. Accessed May 29, 2020
- American Academy of Periodontology. U.S. Periodontal programs. Available at: <https://www.perio.org/education/programs/us.html>. Accessed May 29, 2020
- American Council of Academic Plastic Surgeons. Plastic surgery residency programs. Available at: <https://acaplasticsurgeons.org/residency-resources/fellowship-programs.cgi>. Accessed May 29, 2020
- Electronic residency Application Service: Otolaryngology - Head and Neck surgery. Available at: https://services.aamc.org/eras/erasstats/par/display.cfm?NAV_ROW=PAR&SPEC_CD=280. Accessed May 29, 2020
- US news and World Report 2021 best medical schools: Research. Available at: <https://www.usnews.com/best-graduate-schools/top-medical-schools/research-rankings>. Accessed June 8, 2020
- Ko LN, Rana J, Burgin S: Incorporating social media into dermatologic education. *Dermatol Online J* 23:13030, 2017
- Galiatsatos P, Porto-Carreiro F, Hayashi J, et al: The use of social media to supplement resident medical education - the SMART-ME initiative. *Med Educ Online* 21:29332, 2016
- Chandawarkar AA, Gould DJ, Stevens WG: Insta-grated plastic surgery Residencies: The rise of social media Use by trainees and Responsible guidelines for Use. *Aesthet Surg J* 38:1145, 2018
- Xie DX, Dedmon MM, O'Connell BP, et al: Evaluation of social media presence of otolaryngology residency programs in the United States. *JAMA Otolaryngol Head Neck Surg* 144:802, 2018
- Weber L, Khosravani N: Connecting with the Next Generation: A medical Student's Perspective on social media Use and plastic surgery. *Plast Reconstr Surg* 142:247e, 2018

22. Renew JR, Ladlie B, Gorlin A, Long T: The impact of social media on Anesthesia resident recruitment. *J Educ Perioper Med* 21:E632, 2019
23. McHugh SM, Shaffer EG, Cormican DS, et al: Use of social media resources by applicants during the residency selection process. *J Educ Perioper Med* 16:E071, 2014
24. Harley EH Jr: The increasing role of social media in otolaryngology. *JAMA Otolaryngol Head Neck Surg* 145:203, 2019
25. Svider PF, Gupta A, Johnson AP, et al: Evaluation of otolaryngology residency program websites. *JAMA Otolaryngol Head Neck Surg* 140:956, 2014
26. Hashmi A, Policherla R, Campbell H, et al: How informative are the plastic surgery residency websites to prospective applicants? *J Surg Educ* 74:74, 2017
27. Silvestre J, Tomlinson-Hansen S, Fosnot J, Taylor JA: Plastic surgery residency websites: A critical analysis of accessibility and content. *Ann Plast Surg* 72:265, 2014
28. Dedeilia A, Sotiropoulos MG, Hanrahan JG, et al: Medical and surgical education Challenges and innovations in the COVID-19 era: A Systematic review. *In Vivo* 34(3 Suppl):1603, 2020
29. Hennessy CM, Smith CF, Greener S, Ferns G: Social media guidelines: A review for health professionals and faculty members. *Clin Teach* 16:442, 2019