ORIGINAL RESEARCH

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A descriptive analysis of otolaryngology presence on the social media platform TikTok

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Abstract

Objective: In recent years, the video sharing app TikTok has become a new venue for health care providers and medical educators. Research on health care information within the app has primarily focused on cosmetic and plastic surgery content. TikTok could potentially be a tool used to educate the public on otolaryngology-related topics. This study is the first to analyze the quality and quantity of otolaryngology-related TikTok content.

Methods: A cross-sectional study of TikTok accounts using otolaryngology-related hashtags within the preceding 6 months was conducted on February 4, 2023. Deductive qualitative analysis was performed between two coders to identify themes of the accounts and their content.

Results: A total of 47 accounts were selected for analysis. Facial plastic surgery was the most represented specialty ($n = 20$; 43%) and pediatric otolaryngology the least represented ($n = 1$; 2%). Content posted was primarily educational in nature ($n = 30$; 64%) and 66% ($n = 31$) of content creators advertised contact information in their account biography. The majority of accounts were in English ($n = 30$; 64%) and originated in the United States ($n = 30$; 64%). More accounts were run by male ($n = 29$; 62%) than female content creators.

Conclusion: Otolaryngology is a broad specialty with unequal representation of the related subspecialties on TikTok, a popular social media platform. The majority of current content focuses on patient education in facial plastic surgery. Future studies are warranted to examine the potential growth and impact of otolaryngology content on this video-based platform.

Level of Evidence: 2.

KEYWORDS
comprehensive otolaryngology, medical education, resident education, social media, TikTok

1 | INTRODUCTION

Social media is a valuable tool for delivery of medical information to both health literate and lay audiences. In recent years, the video sharing app TikTok has experienced exponential growth, reaching 3 billion downloads by mid-2021 and becoming the most-downloaded app in 2022. It has thereby become a new modality for clinicians and medical educators to share medical content and education.[1,2] Analysis

of health care content on the app is relatively limited. Preliminary research on health care information available on TikTok has primarily focused on the popularity of cosmetic and plastic surgery content, determined by numbers of video views, likes, and hashtags related to similar subjects.[3]

Broad analysis of the use of social media for health care content is an emerging field, and available literature does not always reflect the fast and dynamic nature of social media trends. TikTok's presence in the public sphere has exponentially grown since its release to global smartphone markets in August of 2018, but is not often the central focus of available research. A 2022 international bibliometric analysis of literature on the use of social media for health-misinformation examined over 500 articles and found the majority of studies focusing on individual platforms. Most often cited were Facebook, Instagram, Weibo, and Twitter; newer platforms such as TikTok and Douyin (the Chinese equivalent) were identified as incredibly popular but underrepresented platforms in scholarly literature.[4]

Although the relative number of physicians using TikTok is unclear, past research examining the use of social media platforms like Instagram and YouTube among plastic surgeons has revealed how medical information is marketed to laypersons and potential patients.[5,6] As more research has examined the content produced by physicians and patients alike, there is a better understanding of how these two groups interact.[7] Furthermore, some surgeons have adopted the role of potential social media "influencers" and look to impact the public conversation and general knowledge surrounding their specialty.[8]

The current landscape of otolaryngology-head and neck surgery (OHNS) on TikTok is unclear. However, a review of current literature of social media use in OHNS demonstrates rapid growth in utilization of social platforms among physicians for broad purposes including networking and education.[9] This mixed methods study is the first to assess otolaryngological TikTok content and presents a recent analysis of popular topics related to OHNS on the app.

2 | MATERIALS AND METHODS

2.1 | Sample selection

To ensure no prior TikTok search history influenced the content portrayed to researchers, new TikTok accounts were created for the purpose of this project. The following list of otolaryngology-related search terms were selected to capture the maximal amount of OHNS content across sub-specialties: #earnosethroat, #ENT, #facialplastics, #laryngology, #otologist, #otolaryngology, #otorhinolaryngology, #pediatricent, #rhinology. The term "otologist" was used instead of "otology" because the latter term primarily yielded ophthalmology content with the tag "ophthalmology."

On February 4, 2023, two researchers (S.E.O. and J.F.S.) identified up to 15 accounts which used each of the search terms listed above. Accounts were screened to only include those primarily dedicated to otolaryngology-related content. Accounts removed through this screening included physician, dentist, patient, or medical student creators with less than half of their past 12 videos pertaining to otolaryngology. Duplicate accounts were also removed, yielding a total of 53 content creators.

2.2 | Data collection

On February 20, 2023, one researcher reviewed each account to determine the geographic location, sex, and language spoken by each content creator. From February 20, 2023, through February 28, 2023, two trained researchers (S.E.O. and J.F.S.) performed independent deductive qualitative analyses. Accounts were categorized by content subject (audiology/otology, facial plastics, general otolaryngology, laryngology, pediatric otolaryngology, rhinology/allergy) as well as content purpose (education, entertainment, advertising) as described by a codebook created prior to analysis (see Supplemental Table 1). Codes with disagreement between the two researchers were discussed to come to a consensus. At this time, all accounts which had not posted a video within the last 6 months were excluded from the study due to inactivity, leaving a total of 47 active accounts. On March 20, 2023, it was noted whether accounts included their website or contact information in their biography. The number of followers and total likes of each account were noted on February 4, February 20, February 28, March 20, April 11, and June 12, 2023, to track the short-term trends of otolaryngology-related content creator popularity.

2.3 | Data analysis

Descriptive statistical analysis was performed on the binary coding for each aforementioned category to better quantify themes present in the qualitative data collected.

3 | RESULTS

The majority of otolaryngology-related TikTok accounts were dedicated to facial plastics and reconstructive surgery (43%, $n = 20$), followed by general otolaryngology (28%, $n = 13$; Figure 1). Laryngology content creators (13%, $n = 6$) consisted of laryngologists, speech language pathologists, as well as voice coaches. Audiology and otology content creators (8%, $n = 4$) were primarily audiologists without any representation of neurotologists. Rhinology/allergy-related content creators made up 6% ($n = 3$) of accounts and pediatric otolaryngologists made up the smallest fraction of accounts (2%, $n = 1$).

A majority of otolaryngology-related TikTok accounts were in English (64%, $n = 30$), followed by a significant number in Spanish (25%, $n = 12$; Figure 2A). Other languages included Arabic and Lebanese. Importantly, 64% ($n = 30$) of accounts were based in the United States, followed by 13% ($n = 6$) in Mexico and 4% ($n = 2$) in Colombia. Armenia, Lebanon, Istanbul, Bolivia, Poland, Korea, Brazil,
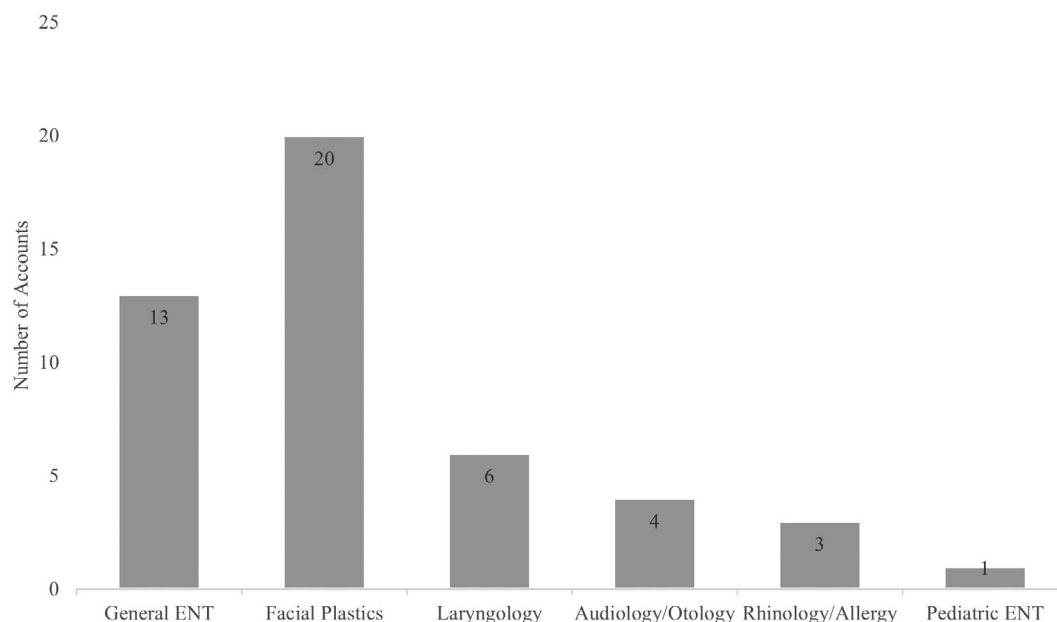
FIGURE 1   Number of TikTok accounts representing each otolaryngological subspecialty.
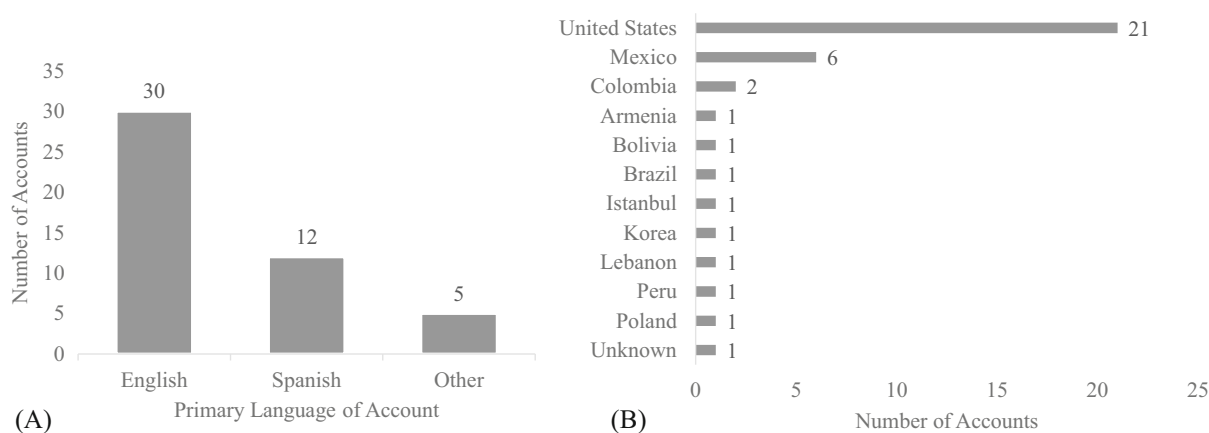

FIGURE 2   (A) Language profile of TikTok accounts using otolaryngology-related hashtags. (B) Location of content creators posting otolaryngology-related content.

Peru, and an unknown country were all represented by 1 account each (2%; Figure 2B).

TikTok accounts using otolaryngology-related hashtags in their videos were owned primarily by male content creators (62%, $n = 29$) with female content creators representing 34% ($n = 16$) of accounts (Figure 3). The remaining 4% ($n = 2$) of accounts did not have a clear male or female primary content creator.

The purpose of otolaryngology-related content was either to educate (64%, $n = 30$), entertain (30%, $n = 14$), and/or advertise (40%, $n = 19$) to TikTok audiences (Figure 4A). Several accounts served dual purposes, such as educating audiences while actively advertising their practice. Although 40% ($n = 19$) of accounts actively advertised a product or their practice in their 12 most recent videos, 55% of accounts ($n = 26$) had some form of advertising content present in their biography (Figure 4B). This appeared

in the form of a link to their practice or product website (51%, $n = 24$), or contact information (15%, $n = 7$) such as an email or WhatsApp telephone number.

Otolaryngology-related TikTok accounts have a growing audience and follower base. On TikTok's outward-facing platform, any number of followers above 10,000 is rounded to the nearest hundred or to the nearest million. In a 128-day period between February 4, 2023 and June 12, 2023, the average follower volume of otolaryngology-related TikTok accounts increased by 7% (Figure 5).

4 | DISCUSSION

This study was the first cross-sectional descriptive analysis of otolaryngology-related content on the video-sharing app TikTok.

Previous studies have identified the presence of OHNS content on other social media platforms; however, they do not include TikTok.[9] Facial plastic and reconstructive surgeons made up nearly half of the identified TikTok accounts, followed by general otolaryngology and minimal representation of laryngology, rhinology, otology, and pediatric otolaryngology. The disproportionate representation of facial plastic and reconstruction accounts may be due to their use of TikTok to promote cosmetic private practice, which is consistent with the documented presence of general plastic surgery on the platform.[3]

Analyzed accounts were primarily in English, with several in Spanish, and few in other languages. This observation aligns with previously demonstrated trends in health information on social media, which is predominantly published by researchers based in the United States.[4] Accounts were also predominantly male-led, which reflects the 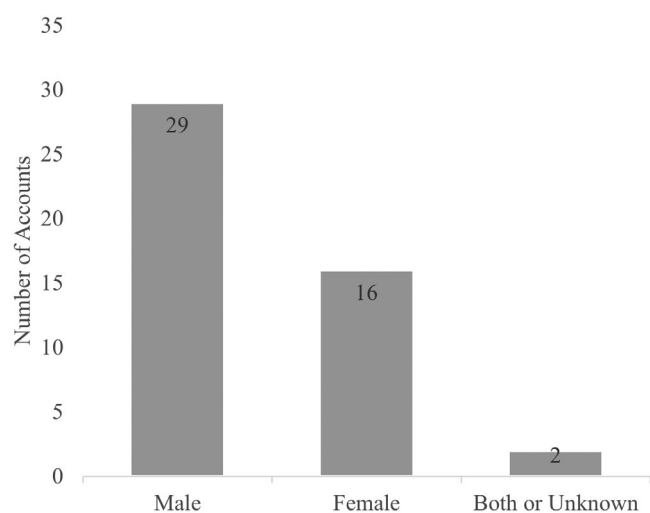current demographics of otolaryngologists in the United States.[10] Otolaryngology-related social media accounts have the potential to increase visibility of historically underrepresented groups in the field with regard to gender, race, sexual orientation, and beyond. Although the impact of otolaryngology content was not investigated in the present study, the disparity of diverse representation may offer an area of potential growth.

Most accounts created content for educational purposes and included videos explaining otolaryngology-related procedures, pathologies, or at-home care. A majority had some form of advertising information in their profile biography such as a link to their practice, product, or contact information. Although social media is a growing method of private practice advertisement, it can be further leveraged for patient education and advocacy.[11]

The otolaryngology-related TikTok community is growing, with accounts experiencing an average 7% increase in followers during the 128-day study period. Of note, few accounts had content aimed at medically educated audiences. This represents an area of profound potential for the platform that can be used to facilitate an alternative mode of medical education for health care professionals and students seeking up-to-date and evidence-based information. The platform Twitter has been used in a similar capacity as it allows users to post text, images, and videos. Twitter is particularly useful to medical educators via the ability to create threads of sequential information in the delivery of case studies, practice questions, and clinical decision-making scenarios. The increased popularity, accessibility, and use of audiovisual content makes TikTok an appealing tool for modern medical education that is currently unused.

The use of any social media platform for delivery of medical messaging raises valid concern for dissemination of medical misinformation (TikTok's challenges removing COVID-19 misinformation is a well-documented example).[12] The presence of licensed clinicians and reputable creators on TikTok may mitigate this risk as they can provide factual medical content and address false information.

FIGURE 3 Male-to-female gender distribution of analyzed TikTok accounts.
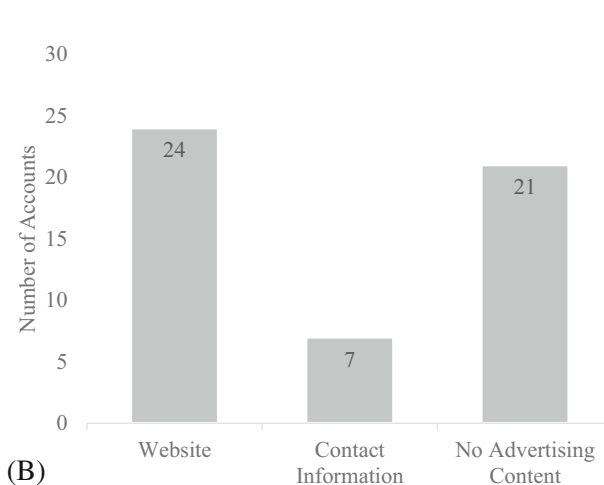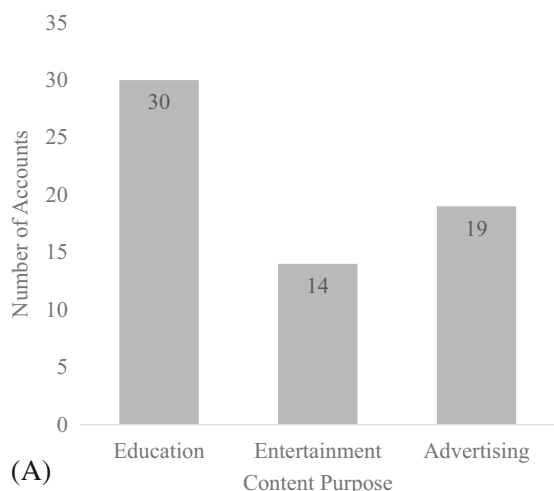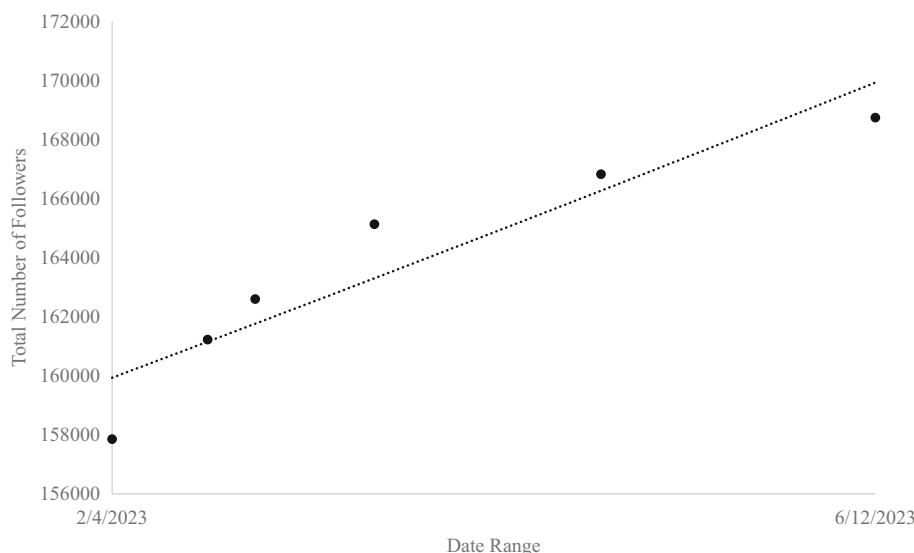

FIGURE 4 (A) Purpose of otolaryngology-related TikTok accounts. (B) Presence of advertising materials in biography of otolaryngology-related TikTok accounts.

FIGURE 5 Average number of followers among the 47 otolaryngology-related TikTok accounts analyzed.

There are several strengths to this study. Although studies have observed trends in otolaryngology-related content on other social platforms, this study performs the first analysis to date on the ever-expanding TikTok app. It uses a mixed qualitative and quantitative methodology to evaluate the purpose of otolaryngology-related TikTok content and broad content creator demographics. Data collection occurred from the user-facing side of TikTok to allow for authentic representation of the user experience when performing searches. Both video collection and qualitative analysis were performed by two independent researchers, reducing result bias and content misinterpretation. Importantly, there are weaknesses that must be addressed. A limited number of search terms were chosen, which may have resulted in the exclusion of otolaryngology-related accounts which used hashtags not included in this study. TikTok is an incredibly dynamic platform with a relatively unpredictable algorithm, making current trends difficult to understand when they may be incongruent with historical trends and patterns. Furthermore, the study is designed to be reproducible but fast-paced changes to user experiences and trends can make an identical study with differing results. To combat this, researcher accounts were analyzed rather than individual videos which change more rapidly. Finally, as a cross-sectional and descriptive analysis, this study does not evaluate the accuracy or impact of otolaryngology-related TikTok content.

5 | CONCLUSION

This study comprehensively describes otolaryngology-related content on the video-sharing platform TikTok. The users posting otolaryngology-related content were primarily English-speaking, based in the United States, male gender, and focused on facial plastics and reconstruction content. Videos were primarily educational; however, some form of advertising was present in most accounts. The number of followers of otolaryngology-related TikTok accounts increased over the 128-day study period, highlighting its ongoing growth, and expanding audience. Results indicate opportunities to capitalize on TikTok as a platform for the development of patient and medical education though further study on the accuracy and impact of this unregulated content is critical.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.