

# Gender Affirmation Surgery–related Hashtag Utilization on Instagram: Implications for Education and Patient Care

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**Background:** Gender-affirmation surgery (GAS) allows for transgender and non-conforming patients to achieve a more congruent physical appearance and alleviate dysphoria. Social media, such as Instagram, has adopted an increasingly important role in plastic and reconstructive surgery, and understanding trends and usage related to GAS can have significant implications for patient education and outreach. As such, this cross-sectional study aims to address the following questions related to GAS-related content available on Instagram: (1) Who is posting this content? (2) What specific hashtags are they using? and (3) What are the implications behind these posts?

**Methods:** This study analyzed 22 GAS-related hashtags on Instagram. Content analysis was then used to evaluate the “top” 15 posts (n = 330) associated with each hashtag.

**Results:** A total of 425,607 posts were associated with the 22 hashtags queried. #topsurgey had the highest number of associated posts (n = 279,480), followed by #fntopsurgery (n = 41,769) and #vaginoplasty (n = 39,737). Of the “top” 330 posts, 299 were not duplicates. Plastic surgeons eligible for membership in the American Society of Plastic Surgeons accounted for only 1.7% of “top” posts (n = 5); noneligible physicians accounted for 6.0% of posts (n = 18). Patients accounted for the majority of the “top” posts sampled (n = 236; 79.9%).

**Conclusions:** When used appropriately, social media can be a powerful tool for spreading awareness on procedures and educating patients. Although there is a paucity of plastic surgeons posting GAS-related content on Instagram, patients are playing an important role in disseminating information. (*Plast Reconstr Surg Glob Open* 2024; 12:e5841; doi: 10.1097/GOX.0000000000005841; Published online 22 May 2024.)

## INTRODUCTION

Gender-affirmation surgery (GAS) is an important component of comprehensive care for transgender and gender nonconforming (TGNC) patients experiencing dysphoria. A variety of surgical procedures exist encompassing face, chest (top), body contouring, and/or genitalia, to modify physical features to better align with a patient’s gender identity.<sup>1</sup> Numerous studies have revealed the significant impact of these procedures on psychosocial

outcomes and quality of life in TGNC individuals.<sup>2–4</sup> Patient interest in each of the specific procedures varies, and not all patients elect to have all procedures performed. This preference stems from differing goals and sources of dysphoria but may be influenced by exposure to information about each procedure.

Although TGNC individuals remain a minority throughout the United States, the prevalence of GAS has increased over the years due to both the known benefits and updated laws that require coverage of gender-affirmation care.<sup>5,6</sup> Multiple studies have demonstrated exponential annual increases in these procedures since 2009, with more recent data also showing that procedures have nearly tripled over the course of a few years.<sup>7</sup>

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In 2020, the American Society of Plastic Surgeons (ASPS) released a GAS report for the first time ever, specifically noting the number and variety of these procedures. The table stratifies the procedures by trans female and trans male patients and further by facial, breast/chest, and genital categories. Although the COVID-19 pandemic is a confounding factor for truly understanding trends surrounding GAS, almost every procedure category saw a double-digit increase, with an overall 12% increase in total GAS, from 2019 to 2020.<sup>8,9</sup>

Global interest in these procedures has further been analyzed via Google Trends analysis, with studies finding recent increases in the number of searches related to various GAS procedures.<sup>10,11</sup> It is well known that the internet and social media platforms are commonly used by both providers and patients to disseminate information at various stages of the process. Within plastic surgery, many have recognized the now prominent and indispensable role of social media in practice. Given the visual aesthetic of this field, it is not surprising that plastic and reconstructive surgery is one of the most prevalent health-care specialties on social media.<sup>12</sup> These platforms aid themselves in providing education, marketing, and direct communication to users across the world. It is estimated that 4.95 billion people, or 61.4% of the world, use some form of social media.<sup>13</sup> Of the many social media applications, Instagram (Meta, Menlo Park, Calif.), is one of the most used, with an estimation of 2.4 billion users this year.<sup>14</sup> Since its creation in 2013, it has seen exponential growth and is only preceded by Facebook and YouTube in terms of its active users. Despite this, studies have demonstrated that plastic surgeons have a significantly higher presence on Instagram than on these other two leading platforms.<sup>15</sup> When used appropriately, social media can be a powerful tool that not only improves plastic surgery practice, but also enables the best care for patients. It is important that certified plastic surgeons find their presence on these platforms to contribute to the resources and information available to patients.<sup>12,16</sup> A hashtag is one feature that multiple social media applications use to help users boost engagement on their posts and provide an easy, streamlined method to search specific content.<sup>17</sup> As such, this study sought to evaluate the content associated with GAS-related hashtags on Instagram and ultimately address the following questions: (1) Who is posting this content? (2) What specific hashtags are they using? and (3) What are the implications behind these posts?

## METHODS

### Study Design

We conducted a cross-sectional study according to STROBE guidelines to evaluate social media content related to GAS. The data included are publicly available and, thus, board approval was not required. Using the ASPS Statistics Report on Body Contouring/Gender Confirmation Surgery and the World Professional Association for Transgender Health, the most popular surgery procedures were gathered. Two authors

### Takeaways

**Question:** Who is posting gender-affirmation-surgery-related content on Instagram? What specific hashtags are being used? What are the implications behind these posts?

**Findings:** Twenty-two relevant hashtags were queried on Instagram, and the “top” associated posts were qualitatively evaluated. Approximately 80% of posts originated from patients with only 7% of content coming from physicians, and further, only 1.5% coming from ASPS-eligible board-certified plastic surgeons.

**Meaning:** As plastic surgeons and health-care providers, it is our duty to become increasingly active on social media to support patients, provide the best care, and offer additional resources.

(N.G. and T.A.) queried hashtags using the medical and lay person terminology for each; any disagreements regarding term inclusion were to be resolved by the senior author (M.D.).<sup>18</sup> Additionally, using Google Trends online technology, we were able to confirm that the terms we analyzed in hashtag form were commonly searched by users. The hashtags ultimately included reflect the medical and lay terms for the most common gender-affirming procedures such as female-to-male top surgery, breast augmentation, and vaginoplasty. This was further evidenced by the large number of posts associated with the hashtags evaluated. The authors queried other generic hashtags used on the posts analyzed; however, many were duplicates that were already analyzed from one of the 22 hashtags included in this analysis or mostly included content that was not applicable to our study (ie, not reflecting GAS-related procedures). Future studies may opt to focus their evaluation using fewer terms, or rather, include more terms to thoroughly understand the social media trends that encompass all GAS terminology.

### Online Search and Data Collection

Data from Instagram were obtained manually on November 9, 2023. The included hashtags were (1) #toposurgery, (2) #vaginoplasty, (3) #phalloplasty, (4) #bottomosurgery, (5) #facialfeminizationsurgery, (6) #genderaffirmingsurgery, (7) #facialmasculinizationsurgery, (8) #gendersurgery, (9) #genderreassignment-surgery, (10) #scrotoplasty, (11) #metoidioplasty, (12) #sexreassignmentsurgery, (13) #transgendersurgery, (14) #penectomy, (15) #genderconfirmationsurgery, (16) #trachealshave, (17) #chestmasculinization, (18) #chestfeminization, (19) #transtopsurgery, (20) #mtftop-surgery and (21) #ftmtopsurgery. Although users may use other hashtags related to GAS, we found that the aforementioned list encompasses most posts and provided insight on the type of content that exists surrounding this field of surgery. Figure 1 shows the flowchart that outlines this study’s inclusion and exclusion of hashtags and posts.

The total number of posts for each hashtag was recorded. Each of the “top” posts associated with a specific

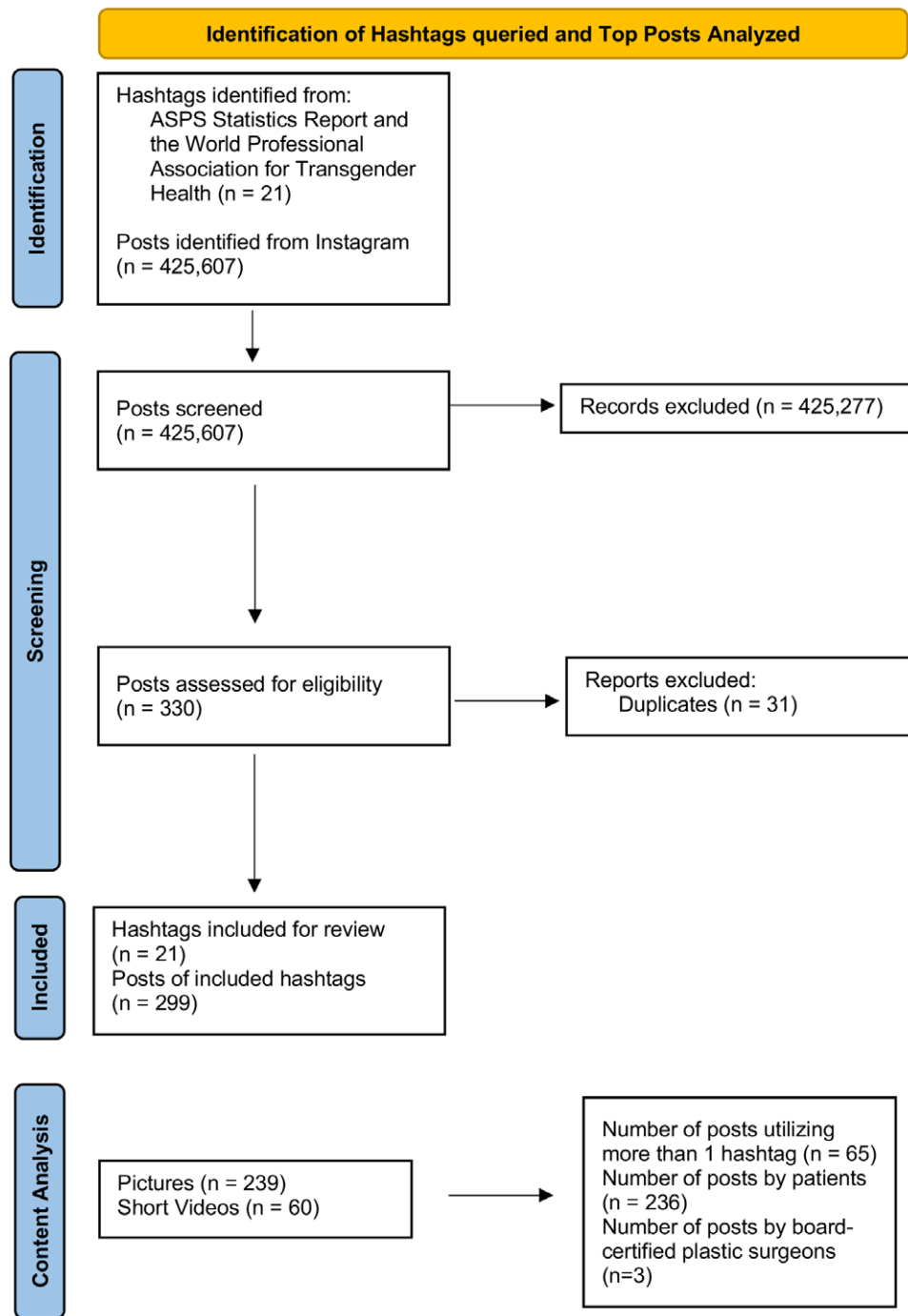


Fig. 1. A flowchart that outlines this study's inclusion and exclusion of hashtags and posts.

hashtag was qualitatively evaluated. In the past, Instagram limited their top posts page to nine posts; however, the application's current format does not limit the number a user can see. We limited our evaluation to only 15 posts because this is the number of posts seen on a phone's interface before scrolling further; top posts associated with each hashtag are ranked using a combination of factors, such as engagement, use of hashtags, content of captions, and whether it meets community guidelines.<sup>19</sup> Duplicates or posts not relevant to surgery or the aims here were not

included for evaluation. The author used a new Instagram account for the search to avoid a biased algorithm where top posts are tailored based on previous user activity or interaction.

When assessing the posts queried, our primary focus was on who was posting the content, namely physicians, patients, clinics, etc. We recorded these data by analyzing the Instagram profile. If surgeons were a part of the sampled users, we further determined their board certification, specifically if it met ASPS membership criteria

(American Board of Plastic Surgeons or The Royal College of Physicians and Surgeons of Canada) by using the ASPS online search tool.<sup>20</sup> Foreign surgeons (outside the United States and Canada) and their country of origin were additionally noted. We additionally analyzed the content of the post (ie, educational, promotional, etc.) and whether it was a photograph or short video. Lastly, we evaluated how many posts used more than one of the 21 GAS-related hashtags queried, as posts that use more hashtags can increase engagement. No statistical analysis was used because data were qualitatively analyzed; however, categorical data were recorded as number and percentage.

## RESULTS

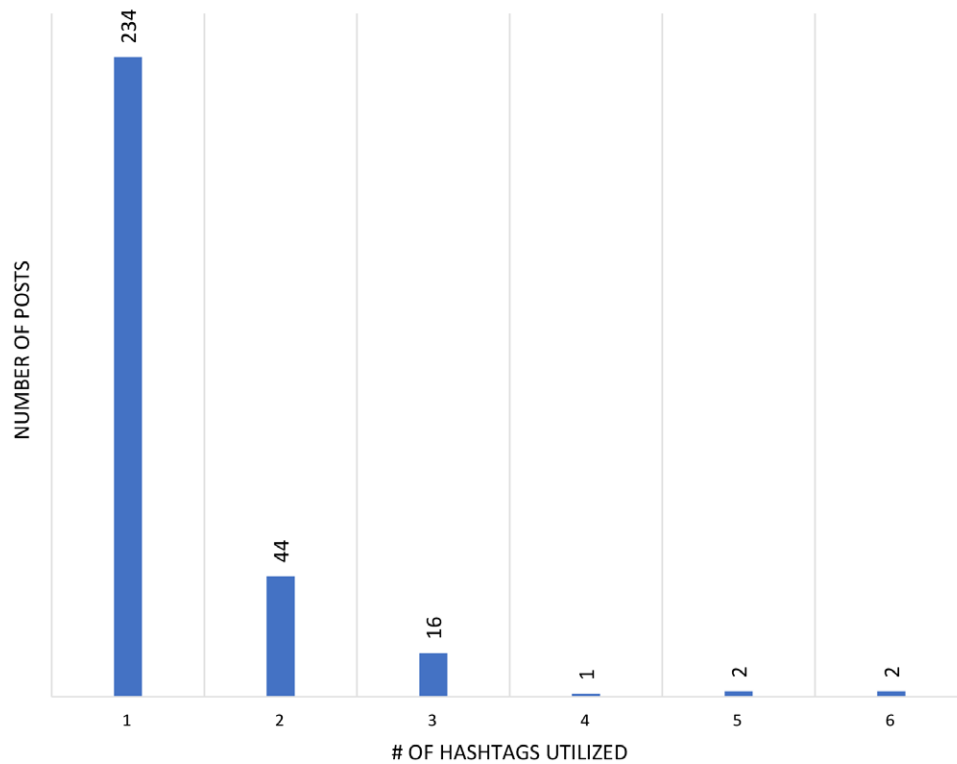
A total of 425,607 posts were associated with the 22 hashtags queried. #topsurgery had the highest number of associated posts ( $n = 279,480$ ), followed by #ftmtopsurgery ( $n = 41,769$ ) and #vaginoplasty ( $n = 39,737$ ). (See **table, Supplemental Digital Content 1**, which displays the hashtags and associated posts. <http://links.lww.com/PRSGO/D222>.) After duplicates and posts not relevant to GAS were removed, 299 of the top 330 posts met inclusion criteria (239 photographs and 60 short videos). Certain hashtags associated with nonspecific procedures, such as #mastectomy, were not included because none of the top posts were associated with gender-affirming care. Among the posts analyzed, the majority came from patients/personal accounts ( $n = 236$  posts; 79.9%). Other users/accounts included clinics/practices ( $n = 30$  posts, 10.0%); plastic surgeons ( $n = 19$  posts, 6.4%); therapists ( $n = 4$  posts, 1.3%); cosmetic medical centers or spas ( $n = 3$  posts, 1.0%); obstetricians and gynecologists ( $n = 2$  posts, 0.67%); an academic institution's plastic and reconstructive surgery department ( $n = 2$  posts, 0.67%); a lesbian, gay, bisexual, transgender, queer, and/or questioning organization ( $n = 1$  post, 0.33%); a dietician ( $n = 1$  post, 0.33%); and a prosthesis company ( $n = 1$  post, 0.33%). Within the clinic posts, the majority ( $n = 20$ , 66.7%) advertised nonsurgical therapies, like hyperbaric oxygen for postoperative healing or noninvasive cosmetic procedures. Of the posts, 60.0% ( $n = 18$ ) were foreign, and 40.0% ( $n = 12$ ) of posts originated in the United States. More specifically, 30% of posts ( $n = 9$ ) came from plastic surgery clinics and 10% ( $n = 3$ ) were nonsurgical clinics. It is important to note that although 30 posts came from clinics or practices, some clinics had multiple top posts, and thus, only 17 different clinics made up the users, with a minority being United States-based plastic surgery clinics ( $n = 7$ ). Thirty-three plastic surgeons were sampled either through personal accounts ( $n = 19$ ) or their clinic's accounts ( $n = 14$ ; some clinics had multiple surgeons affiliated with them). Only five surgeons (1.52%) were ASPS-eligible board-certified. Three of these five surgeons were directly posting content from their own account; however the other two were associated with their clinic's post, which also had other non-ASPS-eligible board-certified plastic surgeons at the office. These five surgeons were associated with the following hashtags: #transgendersurgery, #vulvoplasty, #chestfeminization, #chestmasculinization, and

#facialmasculinizationsurgery. **Figure 2** outlines the users/types of accounts sampled. Given that the majority of the posts ( $n = 229$  posts) were from patients, the content of the posts were often personal posts ( $n = 126$ ), before and after pictures ( $n = 32$ ), blogs ( $n = 54$ ), artwork ( $n = 9$ ), or inspirational quotes ( $n = 8$ ). Although most users did not use their account as an official blog or page devoted to transgender care, many included elements of both in their post captions, such as sharing their personal journey, highlighting their postoperative recovery, explaining pros and cons of a procedure, providing educational tools, or giving words of inspiration. Some patient posts focused on personal fundraising efforts ( $n = 11$ ; 4.8%). If a post uses more than one hashtag, it is known to help boost engagement.<sup>21</sup> As such, data on how many of the 22 hashtags were included on the posts sampled were gathered. **Figure 3** exemplifies these findings. Of the posts, 83.6% originated from the United States ( $n = 250$ ). Other countries represented include the following: Thailand ( $n = 9$ ), United Kingdom ( $n = 7$ ), Spain ( $n = 4$ ), Australia ( $n = 3$ ), Belgium ( $n = 3$ ), France ( $n = 3$ ), Turkey ( $n = 3$ ), Azerbaijan ( $n = 2$ ), Germany ( $n = 2$ ), Egypt ( $n = 2$ ), India ( $n = 2$ ), Italy ( $n = 2$ ), Iran ( $n = 2$ ), Brazil ( $n = 1$ ), Canada ( $n = 1$ ), Mexico ( $n = 1$ ), South Africa ( $n = 1$ ), and an unknown location ( $n = 1$ ). [See **table, Supplemental Digital Content 2**, which displays notable findings related to the users, post content, and countries sampled after stratifying the hashtags/related posts by procedure type (ie, face/neck, top/body, and bottom/genitals) or general surgery terminology (ie, sex reassignment surgery, gender-affirming surgery, transgender surgery). <http://links.lww.com/PRSGO/D223>.] In each category (face/neck, top, bottom, general), patients made up the majority of posts (64.3%, 82.1%, 82.8%, and 75.3%, respectively) with the content being predominantly personal or blog style and mostly originating from the United States. Face/neck-related hashtags had the most posts from surgeons (19%) as well as the most posts from ASPS-eligible board-certified surgeons (2.4%). Top and bottom surgery categories each had one post from an ASPS-eligible board-certified surgeon (1.2% and 1.1%, respectively); however, the general surgery term category had no such posts. Although the face/neck-related posts had the largest number of surgeons sampled, only 2.4% of content was educational. Top surgery-related posts had the most educational content (9.5%), followed closely by bottom surgery posts (8.0%); the general term category had no educational content. Face/neck-related hashtag posts were the most diverse, with 28.6% coming from foreign users. The general terms category had the second highest number of foreign posts (22.4%), followed by the bottom (16.1%), and top (7.1%) surgery-related categories.

## DISCUSSION

Social media has become an indispensable tool for modern-day entertainment, consumerism, marketing, and communication. In a survey sent to plastic surgery trainees and ASPS surgeons, 81% of respondents reported being an active social media user.<sup>22</sup> Another survey distributed

## TOP POSTS AND HASHTAG UTILIZATION



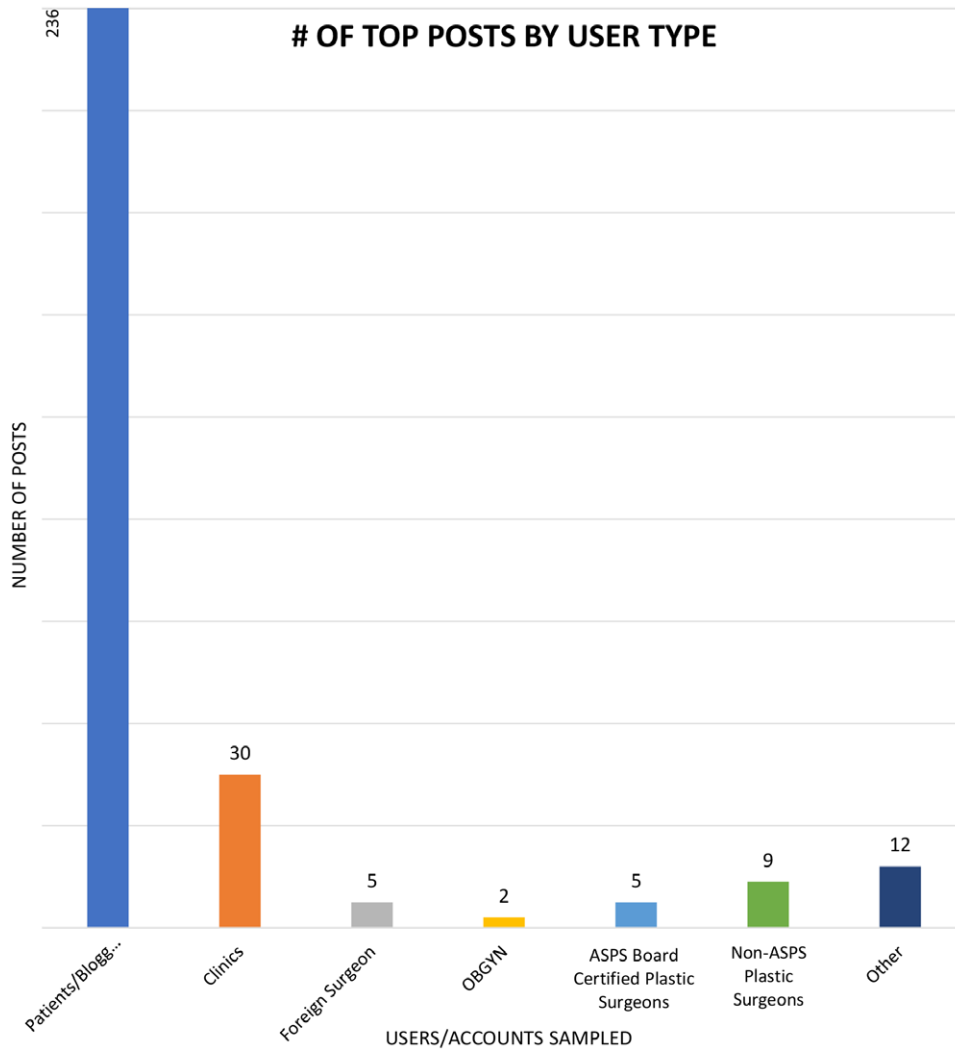
**Fig. 2.** Number of “top” posts came from patients/bloggers, clinics, foreign surgeons, obstetrician and gynecologist, ASPS eligible plastic surgeons, non-ASPS eligible plastic surgeons, or other. Plastic surgeons, and specifically ASPS eligible surgeons, are underrepresented amongst those posting GAS-related content to Instagram.

to ASPS members revealed that 62% of respondents used social media within their practice.<sup>23</sup> Although these numbers continue to grow alongside the growth of social media, it provides a snapshot into the prevalence of its role within this field. From a patient perspective, trending procedures and the advertisement of before and after photographs have been known to influence those seeking cosmetic surgery.<sup>24,25</sup> Social media users often use hashtags to spread awareness on certain trends or topics, as tagging a photograph with them not only boosts engagement, but also allows other users to easily find posts related to their topic of interest.

In recent years, there has been a notable increase in the number of GAS procedures. Despite this trend, few studies have analyzed related content on social media. One study that analyzed the prevalence of different plastic surgery domains in the top 200 posts associated with #plasticsurgery on TikTok (San Jose, Calif.) found that gender-affirming content only made up 1.5% of the posts.<sup>26</sup> Another study that focused on TikTok and YouTube (San Bruno, Calif.) queried six GAS-related hashtags (#mastectomy, #toposurgery, #breastaugmentation, #metoidoplasty, #phalloplasty, and #vaginoplasty) and five generic gender-related terms (#GAS, #transmale, #transmen, #transfemale, and #transwomen) and analyzed the top corresponding content. The results found that the majority

of content on both platforms originated from patients and their content included personal experiences or education (advice, tips, precautions); TikTok had no content that fell under the “physician education” category.<sup>27</sup> Two additional studies that queried similar terms, but focused on YouTube specifically, again found that patients were creating the majority of posts.<sup>28,29</sup>

Our study is the first to analyze GAS-related content on Instagram. We found that approximately 80% of content originated from patients. Only 7% of content originated from physicians (plastic surgeons, foreign surgeons, or obstetrician and gynecologist), and only 1.5% originated from ASPS-eligible board-certified plastic surgeons. Although the resources posted by patients in the TGNC community provide invaluable support, guidance, and education, it is important that surgeons do the same to optimize patient care. We must recognize the role that social media plays for patients. Studies have found that lesbian, gay, bisexual, transgender, queer youths leaned on social media for peer connection and support—emotional, appraisal, and informational. When surveying transmasculine, transfeminine, and nonbinary people, there was consensus on how social media is useful for understanding the logistics of treatment, learning how to safely get hormones, and for educating family members. One respondent said that their parents ultimately allowed them to see a doctor for their



**Fig. 3.** Top posts and hashtag utilization. Specifically, it shows how many posts used more than one of the 22 hashtags analyzed (eg, 44 posts used two hashtags, 16 posts used three, and so on).

own care after seeing social media content from doctors or other patients on its positive benefits for those with gender dysphoria.<sup>30,31</sup> (See table, Supplemental Digital Content 3, which outlines suggestions for responsible and effective social media use that can help facilitate best practices. <http://links.lww.com/PRSGO/D224>.)<sup>32-43</sup> Board-certified plastic surgeons should refer to these considerations when adding content related to this field. It is important to note that this list is not comprehensive and there are many considerations for users who choose to incorporate social media into their clinical practice. Surgeons are encouraged to reference the extensive literature that exists on appropriate social media use to find more specific guidelines and examples. Despite the benefits of social media, it is also imperative to note that there are also pitfalls of these platforms, such as cyberbullying, which further necessitates the need to contribute positive content for all users.

Surgeons may seem underrepresented in top posts because this page continuously changes as new content is added or as user engagement varies. Nonetheless, numerous other studies have supported the same findings that

board-certified plastic surgeons are underrepresented on social media. In an ASPS article that discussed the use of social media in plastic surgery, two accredited members gave their opinion on its potential positive role in this field: educating and directly interacting with patients all over the world in a way that was once impossible.<sup>44</sup> Although patterns of use can vary depending on field of practice and level of training, other ASPS members have concluded, “If our specialty does not use this tool to its greatest potential, our voices will be lost in the conversation.”

The aim of our study is to emphasize how social media can be used as an asset to disseminate medically accurate information regarding GAS. Although the limitation of social media is understood, it can be used as a tool for plastic surgeons to reach a specific population who otherwise may not be familiar with how to receive gender-affirming care. GAS has posed as a controversial topic for some; however, the role of health-care providers is to not influence their patients’ decisions but to ensure the dispersion of accurate information that allows their patients to decide what is best for their health.

## LIMITATIONS

The top 15 posts were sampled; however, the new Instagram interface does not limit the top posts page; thus, a user can continue to scroll through all the content associated with a specific hashtag. Although the snapshot here provided valuable information on the type of users and content surrounding different GAS procedures, future studies could sample even more posts to analyze trends. Additionally, data can potentially be skewed, given that the top posts page is continuously evolving as new posts are added and user-engagement varies. Further, some hashtags had many top posts from the same user. For example, 66.7% (n = 10) of top posts sampled from #facialmasculinizationsurgery came from the same patient's personal account, 57.1% (n = 8) of top #sexreassignmentsurgery posts collectively came from two accounts in Thailand (one clinic and one patient), and 46.7% (n = 7) of #penectomy top posts originated from the same blogger. Furthermore, some of the procedures are not specific to gender-affirming care; #penectomy and #vulvoplasty had veterinarian-related content on the top posts page, whereas a lot of the #vaginoplasty posts were related to cosmetic rejuvenation.

## CONCLUSIONS

Plastic surgeons and health-care providers are underrepresented amongst those posting GAS-related content on Instagram. Patients are currently primarily dependent on each other to provide valuable information on GAS on social media. With the growing role of social media in plastic surgery and the rapid rise in GAS, it is important that board-certified plastic surgeons and other reputable specialists become increasingly active on social media to support patients and provide the best care possible.

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## DISCLOSURE

*The authors have no financial interest to declare in relation to the content of this article.*

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