Plastic Surgery on YouTube

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Background: YouTube is the most accessed video website in the world. It hosts a variety of medical content. Plastic surgery-related content on YouTube has not been investigated before. In this study, we analyzed the most prevalent plastic surgery-related content available on YouTube.

Methods: Search terms were selected to cover the broad topics of plastic surgery. The top 20 most-viewed videos returned for each search term were analyzed. The videos were classified by the type of content, authorship, number of views, and number of likes. Data were collected and analyzed using Microsoft Excel (2016) program.

Results: Out of the 280 videos analyzed, “patient experience” was the most prevalent content type. Thirty percent of the analyzed videos were uploaded by medical centers, and 29% were uploaded from personal accounts. Educational video content constituted 6% of the total videos analyzed. Entertainment was the most prevalent (60%) content type returned when “plastic surgery” was used as the search term.

Conclusions: YouTube is an underutilized social media platform by plastic surgeons. The entertainment industry is taking advantage of the social media platform to attract and gain millions of views. Educational videos are low in number and quality.

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INTRODUCTION

Most people, irrespective of their geographical locations, are routinely using social media platforms for interacting with others or for gaining diverse information as and when required. YouTube is one such video-based social media platform that is used by a huge number of people worldwide. Over 1.9 billion logged-in users visit YouTube each month. Every day people watch over a billion hours of video content on YouTube and generate billions of views. YouTube is available in a total of 80 different languages (covering 95% of the Internet population). Moreover, greater than 70% of YouTube watch time comes from mobile devices.

The Internet has also changed how people obtain information related to medicine and plastic surgery. A recent study has shown that the use of Internet for collecting health-related information is increasing among the general population for a better understanding of their medical condition and intervention they are receiving. YouTube contains diverse medical- and plastic surgery-related information and is one of the leading social media websites accessed by patients for gaining health-related information. According to a study, about 95% of plastic surgery patients collected information about their surgeons and the procedure from the Internet. Watching Internet videos has been shown to greatly influence the patient’s knowledge, beliefs, and behavior that may contribute to better patient care or may lead to misconceptions. Thus, YouTube can be a powerful tool for disseminating health-related information; however, people should be cautious while obtaining health-related information from YouTube. Anyone from any part of the world can post a video on YouTube that is accessible to all individuals without any regulation or standardization. This makes the users of YouTube vulnerable to misinformation posted by nonprofessional users. The accuracy and reliability of information generally depend on the user posting the information. Thus, it is important to know the information provider before relying on any information available on YouTube. Government agencies, universities, and educational institutions should consider spreading of authentic health-related information via YouTube and social media websites that have a significantly high reach to patients. A study has revealed the potential of YouTube to be used as a health education channel for young adults, which can encourage learning and increase understanding via its...
entertaining and engaging content posted by a health-care professional. A huge amount of money can be saved by properly utilizing this medium for distributing health information, thereby reducing unnecessary physician consultation, hospital visits, and hospital admissions.26

Various studies have analyzed the influence of communicating health information via social media platforms.5–8 Many researchers have studied YouTube content for certain specialty health topics.9–12 Some studies have assessed YouTube content for a few plastic surgery-related specific topics.13 However, no previous study has analyzed the plastic surgery-related video content available on YouTube from the perspective of most frequently viewed content. In this study, our aim was to evaluate the content of the most-viewed YouTube videos related to plastic surgery.

**METHODS**

YouTube data were collected from June 15, 2019, to June 20, 2019. The following 14 search terms were selected for the purpose of analyzing plastic surgery-related video contents on YouTube: plastic surgery, hand surgery, microsurgery, breast reconstruction, skin burn, cleft lip and palate, free flap, eyelid surgery, breast augmentation, tummy tuck, nose job, liposuction, Botox, and fillers. These terms were selected after elaborative discussions to ensure capturing the most relevant plastic surgery content. These terms covered broad topics related to plastic surgery. To ensure capturing all relevant video content, a few medical terms were also used in conjunction with the search terms (for tummy tuck, abdominoplasty; for nose job, rhinoplasty; for breast augmentation, breast job; and for eyelid surgery, blepharoplasty).

All the selected search terms were searched on YouTube using a separate search query with the default settings to return “most relevant” results on the top. Then, data were collected for the top 20 most relevant videos returned for each search term. Paid advertising results, duplicated videos, and non-English videos were excluded. Videos were classified according to the type of content, authorship, number of views, and number of likes. Content types were further categorized into entertainment, patient experience, live procedure, educational, advocacy, job description, plastic surgeon’s life story, product review, specialty description, news, beauty tips, and television show. Authorship criteria were categorized into medical centers, medical related, physician, personal, and others. Data were collected and analyzed using Microsoft Excel (2016) program.

**RESULTS**

A total of 280 videos with over 160 million views were included in the final analysis. The most prevalent content types for each search term are shown in Table 1. Overall, “patient experience” was the most prevalent content type (38%). Figure 1 shows the results of the overall analysis of the content type for all the 280 videos. Most of the videos were uploaded by medical centers (30%). Detailed data are shown in Figure 2. The most-viewed videos regardless of the search term, authorship, and content type are listed in Table 2. The most-viewed videos for each search term are shown in Table 3.

**DISCUSSION**

Nowadays, YouTube is one of the most accessed video-based website worldwide.1 It gets millions of views daily. YouTube has diverse medical- and plastic surgery-related content. If used properly, this platform has a huge potential for communicating medical information to the general public, especially during an epidemic.7,9,14,15 One study assessed the presence of dermatology content on YouTube and found that advocacy was the most prevalent content.9 Several other studies have analyzed YouTube contents for the presence of specialty medical content such as movement disorders, pediatric adenotonsillectomy and ear tube surgery, methotrexate self-injection, glioblastoma treatment, and ulcerative colitis.9–22 A previous study found that YouTube is the second most preferred social media platform (after Facebook) used by patients.9 Some health-care providers and agencies have raised concern regarding the quality of medical information available on YouTube and recommended patients to be cautious while using this available information.9,12

Some studies have evaluated a few plastic surgery-related topics on YouTube. Patel et al evaluated the quality of aesthetic surgery-related information available on YouTube and reported that information available on YouTube was of low quality.12 Another research group assessed the information related to breast reconstruction and found that although comprehensive information was not available on YouTube, it can be utilized as a patient education tool to provide comprehensive and validated information.14 In 2018, Nissan et al analyzed the media websites mostly used by patients for cosmetic ear surgery and found that unaffiliated websites were the most reliable and physician websites were the least reliable.15 Botox-related content on YouTube was assessed by Wong et al in 2017.27 Most of these studies did not judge the general picture of most accessed plastic-surgery-related content on YouTube.

Ben Naftali et al analyzed the word “plastic surgery” in 300 posts in YouTube; they found 13% of the published posts are by plastic surgeons.13 In our study, the first 20 videos using the same word did not show any videos uploaded by plastic surgeons. Results from the current study (Table 2) revealed that video featuring the use of silicon sheet for breast augmentation, the most commonly performed plastic surgery procedure, was watched by most people (15 million views).28 It was interesting to note that the 2 videos that got around 21 million views were based on a show where a board-certified plastic surgeon guessed if random individuals have had a plastic surgery procedure previously.29,30 This shows that the public is interested in knowing whether it can be detected if anyone got plastic surgery procedure before. One video named “Man’s Hand Sewn INSIDE His Stomach” got around 3 million views.31 The video was about a patient who had mangled hand trauma and managed by the abdominal-based flap. This shows that unique title and unusual plastic surgery procedures attract public attention. Another video titled “the reveal of my new nose…” gained over 2.5 million views. This indicates that a lot of people are interested in the patient experience after a plastic surgery procedure.
The results of this study indicate that live procedures were mostly uploaded by physicians and medical centers, which we think because they aim to teach the general public and to educate trainees. Plastic surgery-related terms are commonly used by entertainment and personal channels to attract millions of viewers and subscribers. This could increase the misconception of considering plastic surgery just as cosmetic surgeries. Also, it shows that media

| Table 1. Search Terms with the 3 Most-viewed Content |
|-----------------------------------------------------|
| **Search Term** | Content Type | No. Videos | % | Views | Comments | Likes | Dislikes |
|-----------------|--------------|------------|---|-------|----------|-------|----------|
| "Plastic surgery" | Entertainment | 12 | 60 | 53,725,763 | 59,815 | 320,387 | 50,516 |
| N = 20 | Patient experience | 7 | 35 | 12,040,162 | 19,217 | 60,692 | 14,809 |
| Live procedure | 1 | 5 | 178,136 | 6 | 371 | 66 |
| Total | 65,944,061 | 79,038 | 586,758 | 65,451 |
| "Hand surgery" | Live procedure | 9 | 45 | 3,945,985 | 744 | 6,867 | 1,729 |
| N = 20 | Patient experience | 5 | 25 | 9,664,390 | 25,513 | 125,271 | 13,424 |
| Educational | 2 | 10 | 39,850 | 10 | 381 | 13 |
| Advocacy | 2 | 10 | 55,767 | 30 | 211 | 19 |
| Job description | 1 | 5 | 1,588 | 3 | 16 | 0 |
| Total | 13,707,769 | 24,300 | 142,746 | 15,185 |
| "Breast reconstruction" | Advocacy | 13 | 65 | 574,914 | 44 | 398 | 46 |
| N = 20 | Patient experience | 6 | 30 | 94,559 | 71 | 512 | 19 |
| Live procedure | 1 | 5 | 13,893 | 8 | 115 | 5 |
| Total | 65,944,061 | 79,038 | 586,758 | 65,451 |
| "Breast augmentation" | Live procedure | 12 | 60 | 865,849 | 199 | 2,212 | 288 |
| N = 20 | Educational | 4 | 20 | 227,779 | 69 | 1,200 | 59 |
| Product review | 2 | 10 | 22,673 | 19 | 96 | 0 |
| Specialty description | 1 | 5 | 25,541 | 7 | 94 | 12 |
| Patient experience | 1 | 5 | 8,375 | 0 | 14 | 1 |
| Total | 1,150,217 | 294 | 3,612 | 360 |
| "Free flap" | Live procedure | 15 | 75 | 2,108,825 | 77 | 1,099 | 70 |
| N = 20 | Advocacy | 4 | 20 | 138,552 | 69 | 1,272 | 59 |
| Patient experience | 1 | 5 | 2,571 | 2 | 24 | 0 |
| Total | 65,944,061 | 79,038 | 586,758 | 65,451 |
| "Skin burn" | Advocacy | 9 | 45 | 5,782,466 | 10,528 | 94,291 | 2,292 |
| N = 20 | Educational | 6 | 30 | 1,475,444 | 19 | 4,934 | 1,324 |
| Patient experience | 5 | 25 | 2,992,850 | 2,286 | 17,108 | 608 |
| Total | 10,610,760 | 29,273 | 116,343 | 4,224 |
| "Liposuction" | Patient experience | 10 | 50 | 2,093,507 | 6,002 | 72,054 | 2,026 |
| N = 20 | Live procedure | 6 | 30 | 685,257 | 164 | 7,974 | 295 |
| Educational | 2 | 10 | 15,280,583 | 382 | 5,200 | 11 |
| Advocacy | 2 | 10 | 21,749 | 6 | 146 | 11 |
| Total | 18,081,186 | 6,614 | 80,473 | 7,592 |
| "Botox" | Patient experience | 10 | 50 | 2,093,507 | 6,002 | 72,054 | 2,026 |
| N = 20 | Advocacy | 7 | 35 | 239,809 | 152 | 836 | 138 |
| Live procedure | 3 | 15 | 306,120 | 17 | 1,599 | 170 |
| Total | 6,427,959 | 6,882 | 54,986 | 4,662 |
| "Fillers" | Patient experience | 14 | 70 | 3,583,219 | 11,254 | 89,029 | 4,650 |
| N = 20 | Live procedure | 5 | 25 | 1,248,799 | 1314 | 8,387 | 1,318 |
| Educational | 1 | 5 | 310,988 | 205 | 5,300 | 146 |
| Total | 5,143,006 | 12,773 | 102,716 | 6,114 |
| Total | 160,235,569 | 363,591 | 1,605,930 | 132,851 |
mainly focus on the aesthetic part of plastic surgery, which correlates with the data reported in previous studies.\textsuperscript{32} YouTube has a huge potential to be used as a powerful source to educate future surgeons. The educational videos on plastic surgery had limited views (6\%) with most of the videos being of low quality and uploaded from unaffiliated accounts. Government organizations and educational institute should recognize and utilize YouTube as a strong platform for sharing health information with patients and for educating future health-care providers.

This study has certain limitations such as a limited number of search terms were included and only the top 20 videos for each search term were analyzed. Thus, several videos related to plastic surgery might have been missed. Moreover, searching in YouTube is a bit more complex that what is looks like. Factors such as viewing and browsing history might affect the result you can get each time which could affect our result.

The study did not evaluate the accuracy of the information provided by each video. Of note, only YouTube was used for collecting data, which means videos available on

| Table 2. Top 10 Most-viewed Videos Regardless of the Search Terms |
|---------------------------------------------------------------|
| **Title** | **Search Term** | **Content Type** | **No. Views** |
|---|---|---|---|
| 1 Breast Augmentation: Embrace® Advanced Scar Therapy Application Video | Breast augmentation | Medical device application | 15,280,309 |
| 2 Guess Who’s Had Plastic Surgery | Plastic surgery | Entertainment | 14,997,929 |
| 3 Mirror Twins: Sisters Get Matching Booties by Leading Identical Lives | Plastic surgery | Entertainment | 13,986,418 |
| 4 A Plastic Surgeon Guesses Who’s Had Plastic Surgery | Plastic surgery | Entertainment | 6,846,720 |
| 5 I GOT THE SURGERY... THEY HAD TO AMPUTATE MY HAND?! | Hand surgery | Patient experience | 6,314,343 |
| 6 How to Even Out Your Eyelids Without Surgery | Eyelid surgery | Beauty tips | 5,736,501 |
| 7 Man’s Hand Sewn INSIDE His Stomach | Hand surgery | Patient experience | 3,116,141 |
| 8 My Body With 95% Burns | Skin burn | Advocacy | 2,999,329 |
| 9 The reveal of my new nose... (1 week after nose job) | Nose job | Patient experience | 2,549,098 |
| 10 MY PLASTIC SURGERY STORY pt 2 | Plastic surgery | Patient experience | 2,562,457 |
other social networking websites were not included in this analysis. Also, the video contents in a language other than English were excluded. Moreover, some of the selected search terms were not specific for plastic surgery, for example, hand surgery, nose job, eyelid surgery, Botox, and filler. Thus, this study might not reflect the true picture of plastic surgery-related content available on social networking websites, although it highlights the major plastic surgery topics that attract public attention on social media.

**CONCLUSIONS**

This study sheds light on YouTube’s untapped potential for sharing information with the general public. Plastic surgeons and institutions should utilize YouTube’s expanding popularity and powerful reach for spreading awareness about plastic surgery-related safe practices and evidence-based data, which will eventually help in the advancement of the field of plastic surgery. Some factors could help in getting more attention such as unique titles, unusual topics, and patient experience. We recommend further studies to analyze and discuss the quality of YouTube videos specifically.

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