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Before and After Rhinoplasty Photography on Online Platforms

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Introduction

Photography and photodocumentation are an essential part of modern rhinoplasty. Standardized rhinoplasty photographic views are important to follow to maintain consistency for education, research, marketing, and medicolegal purposes.[1,2] Photography in the digital and social media age (e.g., ''selfies'') can be different from standard practices.[3] Instagram (Menlo Park, CA) has emerged as the leading visual social media platform and has been linked to an increase in aesthetic surgery.[4] Whether facial plastic surgeons publish their before-and-after rhinoplasty photographs online according to such standardized rhinoplasty photographic views has not been studied.

Methods

Instagram was queried for the most followed (according to the number of followers) rhinoplasty-focused plastic surgeons through Instagram search and Heepsy.com. Their Instagram posts were evaluated to identify multiphotograph (≥2 views) before-and-after rhinoplasty posts/patients. Single-photograph/view or video-only posts were excluded. Surgeons who did not have at least 10 multiphotograph before-and-after rhinoplasty posts were excluded. Supplementary Figure S1 further depicts cohort inclusion process that led to excluding 11 surgeons. Then, each surgeon's last 20 multiphotograph patients/posts were analyzed.

Each of the photographs was labeled as frontal view, lateral view, oblique view, basal view, cephalic view, on-the-table view, or bilateral view (either lateral or oblique views). The surgeons were then searched online for their personal websites, and their websites' last 20 multiphotographs before-and-after rhinoplasty photographs were analyzed similarly.

Results

Among the included 50 most Instagram-popular rhinoplasty surgeons (follower range 15,800–1,200,000), 29 were otolaryngologists (59.2%) and 39 (78.0%) were located in the United States. A total of 958 multiphotograph posts/patients on Instagram containing 2739 photographs (average 2.9 per patient) were analyzed. Twelve (24.0%) of the websites had not published any before-and-after photographs. The 684 analyzed web-based multiphotograph posts/patients

Table 1. Subtyping of Multiphotograph Before-and-After Photographs of Rhinoplasty Patients in Instagram and Surgeon Websites

| Photograph view	Total posts, N = 1642	Instagram patients, N = 958 (%)	Website patients, N = 684 (%)	p
Frontal views	1315 (80.1)	696 (72.6)	619 (90.5)	**0.001**
Lateral views	1559 (94.9)	899 (93.4)	660 (96.5)	0.173
Oblique views	1247 (75.9)	694 (72.4)	553 (80.8)	0.091
Basal views	472 (28.7)	275 (28.7)	197 (28.8)	0.431
Cephalic views	220 (13.4)	175 (18.3)	45 (6.6)	**0.006**
Bilateral views	641 (39.0)	329 (34.3)	312 (45.6)	0.086
On-the-table views	209 (12.7)	208 (21.7)	1 (0.2)	**0.001**

Bold values represent statistical significance ($p < 0.05$).

The prevalence of various views and types of photographs is noted. Independent sample t-test was used to compare the proportion of each view/type of photograph between Instagram versus website platforms.

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Fig. 1. Breakdown of the 958 Instagram patients/posts and 684 website patients/posts according to the prevalence (%) of each photographic view.
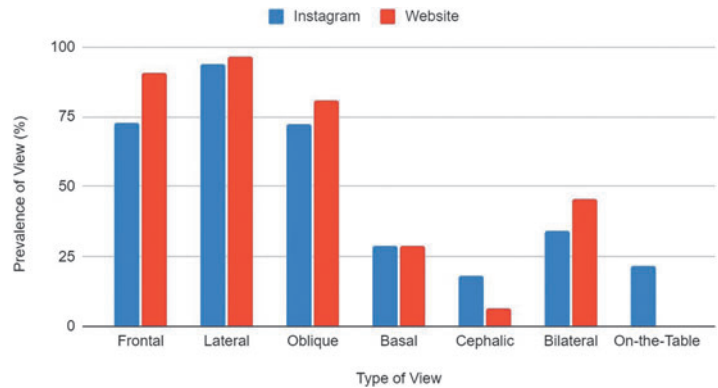
contained 2074 photographs (average 3.0 per patient). Table 1/Figure 1 shows the breakdown of the Instagram, web-based, and total ($n = 4813$) photographs.

In total, lateral views (94.9%) followed by frontal (80.1%) and oblique views (75.9%) were the most prevalent, whereas bilateral (39.0%), basal (28.7%), and cephalic views (13.4%) were significantly less common. Compared with Instagram, web-based before-and-after photographs had significantly fewer frontal views (72.6% vs. 90.5%, $p = 0.001$) but more cephalic (18.3% vs. 6.6%, $p = 0.006$) and on-the-table surgical views (21.7% vs. 0.2%, $p = 0.001$).

Discussion

This study of Instagram-popular rhinoplasty surgeons showed that lateral views followed by frontal and oblique views were the most utilized before-and-after rhinoplasty photographs, whereas base, cephalic, and bilateral views were significantly under-reported. Lateral-view photographs are perhaps the most popular given their ability to demonstrate dorsal hump reduction and tip projection/rotation changes, which is arguably the most appealing cosmetic change for an average viewer. The underutilization of basal and cephalic views may be due to the underappreciation of average viewers for subtle changes or their less aesthetically appealing angles.

However, basal views highlight shape and symmetry of lower lateral cartilages, caudal septum, nasal tip, and base width. This is especially valuable in the age of caudal septal extension grafts.[5] Cephalic views can highlight external deviations especially when not obvious on frontal view. Bilateral photographs were also underutilized that may be because of having a ''better side'' in photographs, or that the brain may be biased in aesthetically evaluating different sides.[6]

There was a significant prevalence of on-the-table photographs (mainly on Instagram) that are not part of standardized rhinoplasty photographs, which can be misleading since the immediate intraoperative changes do not necessarily correlate with long-term outcomes. Of note, the results of this study likely show an enhanced depiction of the actual state of social media rhinoplasty photography, since our inclusion criteria filtered for surgeons who were already following certain good photographic practices.

Conclusion

Few Instagram-popular rhinoplasty surgeons publish all standardized views of before-and-after rhinoplasty photographs. Bilateral-view, basal-view, and cephalic-view photographs are underutilized despite their invaluable information, whereas on-the-table photographs are overutilized despite their biased outcomes.

Authors' Contributions

K.G. contributed to conceptualization, data collection, data analysis, statistical modeling, writing and editing the drafts, and final approval of the version to be published. D.K. was involved in data collection, data analysis, writing and editing the drafts, and final approval of the version to be published. B.J.-F.W. was in charge of conceptualization, data interpretation, editing the drafts, and final approval of the version to be published.

Author Disclosure Statement

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Supplementary Material

Supplementary Figure S1

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