

Internet and Social Media as a Source of Information About Plastic Surgery: Comparison Between Public and Private Sector, A 2-center Study

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Background: The popularity of social media among plastic surgeons and patients has increased in the last years. We conducted this study to explore the differences in patients' social media habits between public and private aesthetic plastic surgery practice.

Methods: A 2-cohort study was conducted in aesthetic plastic surgery clinic and public department of plastic and surgery by surveying consecutive first-time patients.

Results: Two hundred patients completed a 18-question survey at a private aesthetic plastic surgery clinic. The questionnaire was also filled by 113 patients at a public plastic surgery department. Facebook was the most popular social media platform in both groups. Word of mouth from other patients and the clinic's website were the most-valued source of information about the surgeon and surgical procedure for patients of both studied groups. Patients from the aesthetic group were mainly women from small towns; they were significantly younger and better educated and used Instagram more frequently than patients from public group. The aesthetic group patients focused significantly more often on the surgeon's credentials and on before and after photographs. They appreciated social media as a source of information for patients significantly more than public group patients who stated that social media were the worst source of information.

Conclusions: Word of mouth from other patients remains the most-valued source of information about plastic surgery. However, proper use of social media and building online image in a professional manner can provide attract more patients to the aesthetic plastic surgery practice. (*Plast Reconstr Surg Glob Open* 2019;7:e2127; doi: 10.1097/GOX.0000000000002127; Published online 25 March 2019.)

BACKGROUND

Today's world is changing faster than ever, particularly due to worldwide accessibility of the internet and especially the social media. It is a growing phenomenon taking many forms, including blogs, forums, business networks, photograph-sharing platforms, social gaming, chat apps, and, last but not least, social networks. The number of worldwide active social media users is constantly growing

and by 2021 is expected to reach 3.02 billion users, around one-third of Earth's entire population.¹

Social media are becoming more and more popular among plastic surgeons too. They provide a reliable communication platform and efficient method of information exchange between professionals. Worth mentioning is a growing popularity of medical discussion groups on Facebook and numerous other online platforms serving continuous medical education.²⁻⁵ Moreover, Facebook, Instagram, Twitter, and other social media can also serve as tools for collecting data and conducting scientific research.^{3,5-8}

Interest in social media has recently increased among potential patients, too. A vast majority of them use the internet to do research before a consultation with the plastic surgeon.⁹ From the surgeon's point of view, social media can be a powerful marketing tool to engage and attract patients.^{10,11} Thus, this topic is discussed increasingly frequently by plastic surgeons in scientific journals.^{12,13}

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They publish papers with tips and tricks on how to manage social media and how to create the image of a plastic surgeon as a brand online.¹¹ The authors believe that with proper strategy, social media can offer a relatively high return on investment.¹⁰

It seems that knowing the patients' social media habits is crucial, but there is still an insufficient number of reports concerning this topic from the patients' perspective.

The purpose of our study was to compare the usefulness of the internet and social media as channels for interacting with patients in public and private aesthetic plastic surgery practice.

MATERIALS AND METHODS

Ours is a 2-center study conducted at the Public Plastic Surgery Department and Private Aesthetic Plastic Surgery Clinic. Two cohorts of patients were included in the study: nonaesthetic plastic surgery patients and aesthetic plastic surgery patients.

A prospective investigation was performed based on a series of 18-question anonymous surveys administered to consecutive patients during their first-time consultations in both centers between September 2017 and December 2017.

All patients were asked which social media they use: Facebook, Twitter, LinkedIn, YouTube, or other. The respondents could choose more than 1 answer. Then the patients were asked to indicate which source of information is most or least useful for them: (1) experience of other patients who have undergone a similar procedure, (2) internet forums, (3) internet blogs, (4) clinic's website, (5) consultation with another surgeon, and (6) social media.

In other parts of the survey, the patients were asked about the source of information they find most useful for obtaining information about the planned plastic surgery treatment and whether the information found on the internet had an influence on the choice of the plastic surgeon or the clinic.

To assess the patients' online activity, the survey asked about the type of information they search for on the internet and whether they post comments about the sur-

geon based on their experience. The patients were also asked how they found the clinic.

It was a nonclinical and nonexperimental survey study; therefore, statement of institutional ethics committee was not required.

The Wilcoxon test for pairs and Fisher's exact test were used to compare both groups. Statistical significance was set at $P < 0.05$. Statistical analysis was performed using SAS software, University Edition (SAS Institute Inc., Cary, NC).

RESULTS

Patient Characteristics

We collected 313 filled questionnaires: 200 in the aesthetic group (AG) and 113 in the public group (PG). The mean age of the patients in the AG was 33.45 years while in the PG it was 36.55 years ($P < 0.0005$). Women constituted a prevailing majority of the aesthetic patient group as compared with the public department group (87.5% versus 65.49%; $P < 0.0001$). Distribution of sex is presented in Figure 1. Patients from the AG come mainly from cities with $< 200,000$ inhabitants whereas most patients from the PG come from large agglomerations with $> 1,000,000$ inhabitants ($P < 0.0001$). It was observed that private clinic patients were better educated than public department patients ($P < 0.0001$). Patient demographics are shown in Table 1.

Types of Social Media Used by Patients

Both groups use the internet and social media equally in private life. Used by 76.11% and 75.5% of patients in the PG and AG, respectively, Facebook was the most popular social media platform in both groups. The least popular social media platform was Twitter. Only 6.19% of patients in the PG and 8.5% in the AG used this application. The only statistically significant difference between both groups was observed in the case of Instagram. Aesthetic patients used this application more frequently (32%) than patients from the public department (14.16%; $P < 0.0004$). The distribution of social media popularity among patients is presented in Table 2 and Figure 2.

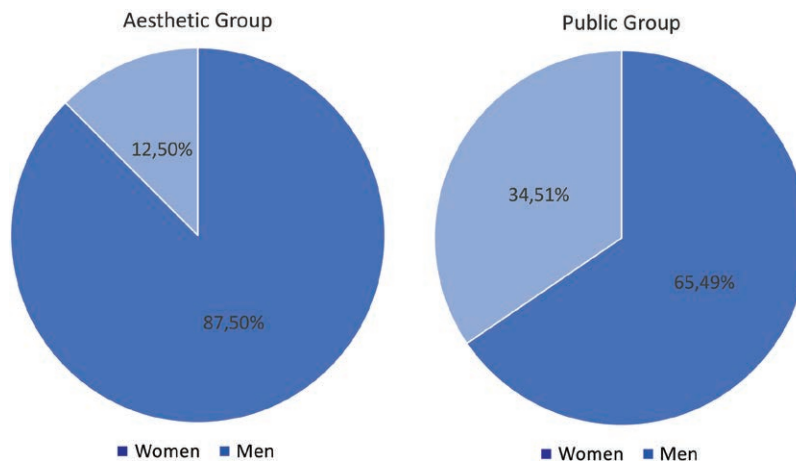


Fig. 1. There were significantly more women in aesthetic group than in public group. (87.5% vs 65.49%; $P < 0.0001$).

Table 1. Characteristics of 313 Consecutive Patients in the Aesthetic Plastic Surgery Practice and Public Plastic and Reconstructive Surgery Department

Patient Characteristic	PG (n = 113)	AG (n = 200)	<i>P</i>
Age (y ± SD)	36.55 ± 8.25	33.45 ± 7.88	0.0005
Sex			
Women (%)	65.49	87.5	0.0001
Men (%)	34.51	12.5	
Hometown population (%)			
>1,000,000	54.46	29.44	0.0001
>500,000	3.57	10.15	
200,000–500,000	4.46	15.23	
<200,000	37.5	45.18	
Education (%)			
Basic	4.42	2.01	0.0004
Secondary	46.9	25.63	
Student	6.19	12.06	
Higher	42.48	60.30	

P < 0.05 determines statistical significance (bold values).

Table 2. Comparison of Social Media Used by Patients in Private Aesthetic and Public Plastic Surgery Sector

Types of Social Media Used by Patients	PG (n = 113)	AG (n = 200)	<i>P</i>
Do you use internet in private life? (%)			
Yes	95.58	97	0.5340
No	4.42	3	
Do you use social media in private life? (%)			
Yes	80.53	83	0.7738
No	19.47	17	
What social media do you use?			
Facebook	76.11	74.5	0.7870
Twitter	6.19	8.5	0.5153
LinkedIn	7.96	11	0.4365
YouTube	65.49	62.5	0.6263
Instagram	14.16	32	0.0004

P < 0.05 determines statistical significance (bold value).

Internet as a Source of Information for the Patient

Both groups agreed that word of mouth from other patients who have undergone a similar procedure was the best source of information (68.14% in the PG, 70.71% in the AG). More than 50% of patients in both groups indicated the clinic's website as a good source of information. Aesthetic patients appreciated social media as a good source of information more often than PG patients (11.73% versus 1.77%; *P* < 0.0018) unlike internet forums, which were regarded as the worst source of information (46.43% versus 30.97%; *P* < 0.0083). The same percentage of patients in both groups stated that internet is not a good source of information (13.27% in the PG and in the AG). Furthermore, respondents from the PG said that social media are the worst source of information (62.83% versus 38.27%; *P* < 0.001). The results are shown in Table 3.

Social Media as a Source of Information About the Surgeon

There was not any statistical significance between both groups and only 6.19% of patients in the PG and 3.06% in the AG indicated Facebook as a good source of information about the surgeon. Word of mouth from other patients was the most appreciated source—over 60% of

respondents in both groups indicated it as most useful for obtaining information about the surgeon.

Social Media as a Source of Information About the Procedure

Similarly, to obtain information about the surgeon, word of mouth from other patients and the clinic website were the most popular sources of information about the procedure. Contrary to our expectations, YouTube did not turn out to be an attractive source and was indicated only by 6.19% of patients in the PG and 5.58% in the AG.

However, there was no statistically significant difference between both groups in this analysis.

Patient's Satisfaction and Posting of Online Reviews

Most patients have never posted online reviews (71.68% of the AG and 66.33% of the PG). Almost one-third (30.61%) of patients in the AG and 24.78% in the PG post when they are satisfied. A small number of patients post reviews when they are dissatisfied (10.71% and 6.19% for the AG and PG, respectively).

Types of Information Searched for by Patients on the Internet

The patients were frequently seeking information about the clinic (68.37% in the AG, 59.29% in the PG) and reviews of other patients. Aesthetic patients were significantly more often looking for information about the surgeon's qualifications—particularly information about completed specialty, training, courses, congresses, etc. (47.96% versus 32.74%; *P* = 0.0119) and before and after photographs (55.10% versus 25.66%; *P* < 0.0001; Table 4).

How Patients Found Out About the Clinic

Patients from the public department found out about the clinic from their friends or other patients significantly more frequently than AG respondents (61.06% versus 32.14%; *P* < 0.0001). For AG respondents, mass media were the main source of information about the clinic, with TV used by 68.53% of AG's patients (*P* < 0.0001) and the press by 7.65% (*P* < 0.0015).

Influence of Information Found on the Internet on the Choice of Surgeon and Clinic

In the group of aesthetic patients, information from the internet had more influence on the choice of surgeon than in PG patients (44.33% versus 17.12%; *P* < 0.0001). Similarly, as far as the choice of clinic was concerned, 56.48% of aesthetic patients indicated that information found online had an impact on the choice of clinic whereas in the PG it was 35.14% (*P* = 0.0011).

DISCUSSION

Our study is the first one in which the use of the internet and social media was compared between public and aesthetic cohorts of patients. It allowed us to observe the differences between the above patient groups.

The comparison of patient demographics showed that aesthetic patients mainly come from small cities. It is quite

Types of Social Media Used by Patients

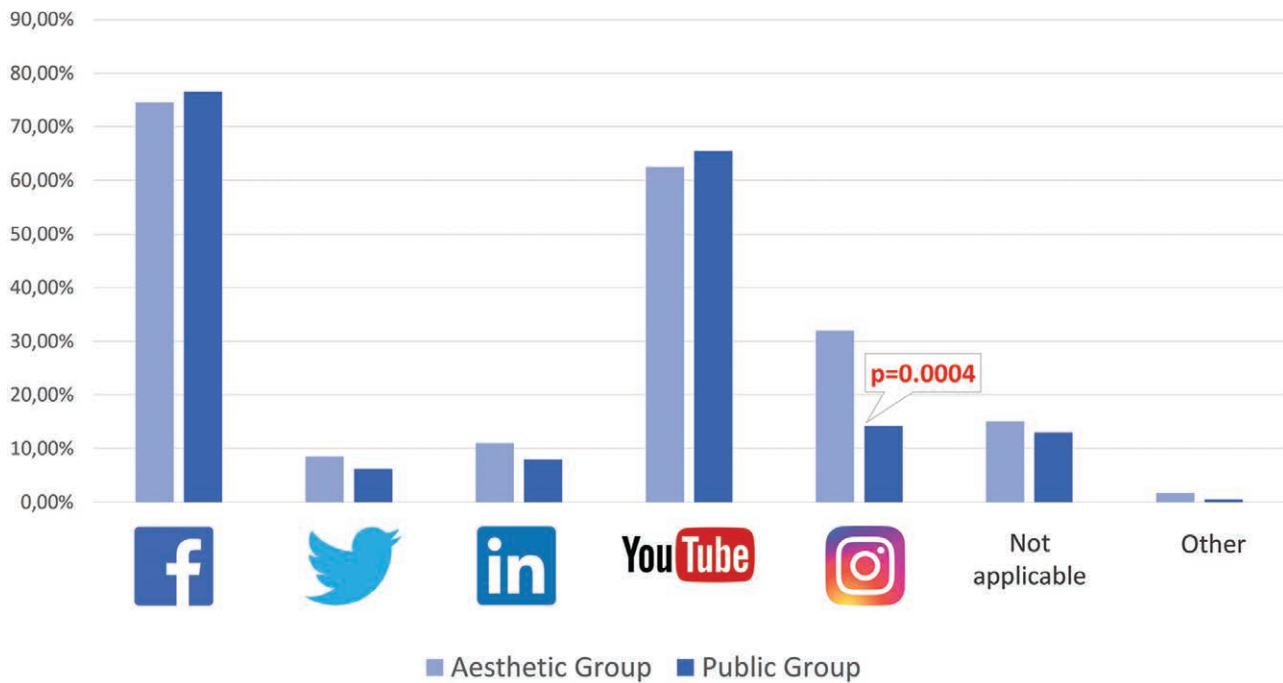


Fig. 2. Percentage distribution of social media popularity among patients.

Table 3. The Best and the Worst Sources of Information for the Patients

Sources	PG (n = 113) (%)	AG (n = 200) (%)	P
Which of the following sources of information is the best for the patient?			
Word of mouth from the other patient who undergone a similar procedure	68.14	70.71	0.8070
Internet forums	30.09	27.92	0.6972
Internet blogs	10.62	9.64	0.8448
Information on clinic website	51.33	52.55	0.9060
Consultation with another plastic surgeon	34.51	27.18	0.1971
Social media (Facebook, Twitter, YouTube, etc.)	1.77	11.73	0.0018
Internet is not a good source of information for the patients			
Word of mouth from the other patient who undergone a similar procedure	13.27	13.27	1.0000
Which of the following sources of information is the worst for the patient?			
Word of mouth from the other patient who undergone a similar procedure	5.31	6.63	0.8070
Internet forums	30.97	46.43	0.0083
Internet blogs	20.35	26.53	0.2706
Information on clinic website	4.42	3.57	0.7638
Consultation with another plastic surgeon	5.31	4.08	0.7773
Social media (Facebook, Twitter, YouTube, etc.)	62.83	38.27	<0.0001

P < 0.05 determines statistical significance (bold values).

surprising, as one might suspect that aesthetic plastic surgery patients come from large metropolises. In our opinion, the results are an effect of suburbanization, as both clinics involved in our study are located in the capital city, where property prices are the highest.

Although the patients from the aesthetic plastic surgery clinic were better educated, all respondents were equally active on social media. The above demonstrates the great potential of social media.

Our results are similar to the work of Sorice et al.,¹⁴ who showed that Facebook had the greatest patient engagement in aesthetic patients and Twitter is the least popular social media platform among patients. Unlike among patients, Twitter is very popular among plastic surgeons.

This communication channel can serve as a valuable information exchange for professional purposes.^{4,7,15,16}

The aesthetic patients enrolled in our study significantly more frequently agreed that social media were a good source of information. In contrast, the patients from the public department responded that social media was the worst way to obtain information about plastic surgery. Moreover, our results show that Instagram is much more popular in the AG patients. This result is in line with our expectations because Instagram is widely recognized as a platform that sets various trends, including beauty.¹⁷ While discussing this topic, we should keep in mind some reports showing that Instagram may lead to body image disorders, anxiety, depression, and unrealistic expecta-

Table 4. Question About Information Searched by Patients on the Internet

Question	PG (n = 113) (%)	AG (n = 200) (%)	P
What kind of information are you looking for on the internet?			
Qualifications of the surgeon (specialty, courses, trainings)	32.74	47.96	0.0119
Information about the clinic	59.29	68.37	0.1097
Opinions of the other patients	53.10	47.21	0.3461
Before and after photographs	25.66	55.10	<0.0001

$P < 0.05$ determines statistical significance (bold values).

tions.^{18–22} However, this topic requires more research on large groups of patients.

Our study proves key importance of word of mouth. Most patients indicated this source of information as their best: (1) source of information for the patient, (2) source of information about the surgeon, and (3) source of information about the procedure. Both groups enrolled in our study were comparable in this variable. The second most-valued source is the clinic website. Therefore, apart from top quality patient care, a professional website including detailed information about the procedures and pre- and postoperative photographs should be a standard in any plastic surgery practice.

Most patients do not post reviews about the plastic surgeon on the internet. It surprised us that dissatisfied patients post reviews less frequently than satisfied patients. However, we did not notice any significant differences. We believe that this topic needs to be explored.

Another often-discussed issue in the literature is the question “where is the line between proper and efficient marketing and ethics of the medical profession?”^{23–26} Patients expect professional care. Therefore, when choosing a surgeon, they look for information about completed courses, internships, and training of their future physician. Our results allow us to state that aesthetic plastic surgeons should reasonably create their “brand” online but should not forget about the best possible patient service.

Limitations

Our study had several limitations. Data regarding the surgery being performed, race, ethnicity, and occupation were not included in our study. We limited the study to the most popular social media. Tumblr, Pinterest, Snapchat, and other less popular platforms were not included. In future studies, their inclusion should be considered.

Only 2 clinics participated in our study. Nevertheless, we were able to gather a sufficient group of patients to obtain statistical significance. However, this topic requires more multicenter prospective randomized studies on large groups of patients.

CONCLUSIONS

Word of mouth from other patients who have undergone a similar procedure remains the best source of

information about plastic surgery for the patients according to our study. However, proper use of social media by aesthetic plastic surgeons could be a good way to capture the attention of their target audience and to attract more patients. In the current internet era, plastic surgeons working in the private sector should pay particular attention to their presence in social media and focus on creating a professional image.

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