

The Influence of Social Media and Easily Accessible Online Information on the Aesthetic Plastic Surgery Practice: Literature Review and Our Own Experience



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Abstract

Introduction Patients interested in aesthetic plastic surgery procedures increasingly seek advice on social media and rely on easily accessible online information. The investigatory goal was to determine the impact of this phenomenon on the everyday aesthetic plastic surgery practice.

Methods and Patients Five hundred consecutive patients completed a questionnaire prior to their consultation with a plastic surgeon at our clinic. A questionnaire was also completed by 128 plastic surgeons practising in 19 different countries. A literature review was performed.

Results Almost all patients (95 %) used the internet to collect information prior to consultation, for 68 % of them it being their first search method. Social media were used by 46 % of patients and 40 % of these were strongly influenced when choosing a specific doctor. The majority of plastic surgeons (85 %) thought the information found on social media could lead to unrealistic expectations. However, 45 % of plastic surgeons believed that their consultations became easier after the advent of social media, 29 % found them more difficult. A literature review showed a high percentage of poor quality internet websites

regarding plastic surgery and an increase in use of social media among plastic surgeons.

Conclusion The internet and social media play an important and growing role in plastic surgery. This results in more informed patients but may create unrealistic expectations. Even if the internet provides ample information, it cannot replace the face-to-face consultation, which always should remain a detailed process, covering both risks and limitations of alternative procedures. Available literature on how social media influences the medical practice is still scarce and further research is needed.

Level of Evidence IV This journal requires that authors assign a level of evidence to each article. For a full description of these Evidence-Based Medicine ratings, please refer to the Table of Contents or the online Instructions to Authors www.springer.com/00266.

Keywords Internet · Social media · On line · Consultation · Aesthetic surgery · Survey

Introduction

Health-related information is easily accessible on the internet and patients are becoming more and more informed before seeing their treating physician. It is not possible to control the vast data available online. This information is heterogeneous and often scientifically unfounded and may lead a patient to incorrect assumptions and unrealistic expectations.

Over the last two decades, the internet has expanded significantly. According to the Pew Internet Research survey from 2013, 81 % of U.S. adults use the internet and 72 % of these looked online for health information in the previous year [1]. It has been documented that the

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percentage of inaccurate or misleading information found on different websites regarding breast augmentation is high [2] and that only 15 % of such websites would be actually recommended to the general public [3].

Social media—one of the newer aspects of the internet—is a common term for web-based applications that involve interactive communication through web-based technologies. This new and unique connection tool offers a way to disseminate information to a specific audience in real time. Popular examples include internet forums, weblogs and social network sites, such as Facebook or LinkedIn. [4, 5]. Peer-to-peer healthcare plays a significant role, as proven by a study that showed how 18 % of U.S. adult internet users browse the web in search for others who might have similar health concerns as they do [6]. The instantaneous two-way communication between a source of information and a user who can initiate or respond to a query, allows patients to share their personal experience with each other and offer to potential “costumers” a first-hand piece of information prior to their surgical procedure. Social media, as a source of medical information, has however its limitations and drawbacks [4]. As this source of information in the field of aesthetic plastic surgery is growing quickly, it is important to also emphasise the negative influence that it could have on patients and it is therefore very important for the physician to learn how to deal with this new phenomenon. To further shed light on this topic, questionnaires were filled in by patients and plastic surgeons.

Methods and Patients

This study includes three assessments:

1. A literature review was performed using seven databases (EMBASE; MEDLINE, Cochrane database of systematic reviews, CAB abstracts, Web of Science, PsycINFO, ProQuest) using the words “internet”, “plastic surgery” and “aesthetic surgery”, including synonyms and different spellings.
2. A prospective investigation was performed on a series of 500 consecutive patients who consulted anyone of the nine plastic surgeon at our clinic, during a 4-month period of time (March–July 2014). Inclusion criteria were Swedish-speaking patients interested in any surgical or non-surgical aesthetic procedure provided by a plastic surgeon. These patients were asked to complete a questionnaire with five multiple choice questions before their consultation. To gather as sincere answers as possible, the questionnaire was anonymous and patients handed them back to the receptionist of the clinic before meeting their doctor.

3. An investigation was performed to evaluate the impact of plastic surgery-related online information on the everyday aesthetic plastic surgery practice. A questionnaire with six multiple choice questions was completed by 128 plastic surgeons practising in 19 different countries. Inclusion criteria were board certified plastic surgeons performing surgical and non-surgical aesthetic procedures.

Results

In the literature search, 19 surveys (17 English, 1 German, 1 French) that were related to the impact of online aesthetic plastic surgery information and its potential influence on patients’ comprehension and expectations towards plastic surgery were identified. The results were divided into four categories: quality assessment of information found on websites; patients’ comprehension and readability of website material; patients’ behaviour while seeking for online data prior to consultation; utilisation of social media among aesthetic plastic surgeons and patients and its impact on the plastic surgery practice. Results from our clinic questionnaires are presented in a separate paragraph.

Quality Assessment of Information Found on Websites

Seven studies that assessed the quality of data were found (Table 1) [2, 3, 7–11]. They all came to the same conclusion: the information gathered on the internet had substantially poor quality, and that the information could be inaccurate or misleading, ranging from 34 to 89 %.

The content of evaluated internet websites contained information about breast augmentation [2, 3], blepharoplasty [7], female genital cosmetic surgery [10] and other non-specified types of aesthetic surgery procedures [8, 9, 11]. Poor quality data mainly regarded details of surgical procedures, benefits and possible complications and post-operative care. In addition, the source of information had rarely any referencing background [2, 8].

Patients Readability and Comprehension of Website Material

Published studies relating to readability and comprehension of available online educational material showed diverging results [12, 13]. Aliu et al. concluded that informational material found on ASPS (American Association of Plastic Surgeons) and ASAPS (American Association of Aesthetic Plastic Surgeons) websites is too difficult to comprehend [12]. In contrast to this, a study performed by Hoppe et al. showed a good patients’ understanding of the information

Table 1 Studies assessing the quality of information found on different aesthetic plastic surgery websites

Author/year of publication	Number and content of evaluated active websites	Relevant outcomes
Gordon et al. 2001 [3]	41, breast augmentation	Only 15 % would be further recommended to the patients
Jejunker et al. 2002 [2]	130, breast augmentation	34 % contained false or misleading information
Sammarito et al. 2003 [9]	45, aesthetic surgeries in general	No website contained any chart of quality; intrinsic quality criteria are partly present
Parikh et al. 2006 [8]	129, aesthetic surgeries in general	89 % failed to reach acceptable standards
Zaidi et al. 2009 [7]	101, blepharoplasty	81 % scored 0 or 1 points out of 4 for quality
Nassab et al. 2010 [11]	100, aesthetic surgeries in general	37 % did not contain any detailed data regarding procedures; 90 % did not contain any data regarding complications
Liao et al. 2012 [10]	10, female genital cosmetic surgery	Insufficient quality and quality of data

Table 2 Studies analysing patient's behaviour in searching for online information about aesthetic plastic surgery prior to their first consultation

Author/year of publication	Number of patients	Relevant outcomes
Walden et al. 2010 [14]	100 post-operative patients after breast augmentation	72 % used internet as their first method of search for information on breast augmentation while 66 % searched the internet for information on breast implants; 52 % found doctors website "very much" or "extremely" influential
Wong et al. 2010 [15]	208 potential patients	60.6 % would access the internet to find out more information about aesthetic surgery
Nassab et al. 2010 [11]	197 members of general public	The internet was a source of information for 70 % of patients
Fansa et al. 2011 [16]	40 post-operative patients	37 % looked for information on the Internet prior to their first consultation; most commonly about complications; 33 % chose a clinic with the help of the Internet
Szycha et al. 2012 [5]	44 post-operative patients after aesthetic rhinoplasty	81.8 % accessed the internet to get more knowledge prior to surgery; 83.3 % thought that Internet benefited them "very much" or "moderately" in understanding the problem and in making a decision whether or not they should undergo surgery; 44.4 % believed that the data retrieved on the internet helped them being better prepared for the consultation

presented online, provided by the ASPS and ASAPS websites. Patients correctly answered an average of 68.2 % of the questions, which showed they were capable of comprehending online educational materials [13].

Patients' Behaviour While Seeking Online Information Prior to Consultation

Five studies were identified, containing data on patients' behaviour while seeking online information prior to their first consultation with a plastic surgeon. These studies are presented in the Table 2 [5, 11, 14–16].

They revealed that the majority of patients seek information about aesthetic plastic surgery on the internet, prior to their first consultation. The results varied from 37 to 81.8 % [5, 11, 15, 16]. Patients most commonly used the internet to search for details of surgical procedures, to look at pre- and post-operative pictures, to find surgeons' contact information and to get in contact with other patients. Results also showed that the internet was usually the first search method in 38.6–72 % of cases [5, 14].

Utilisation of Social Media Among Aesthetic Plastic Surgeons and Patients and Its Impact on the Plastic Surgery Practice

Eight studies related to social media utilisation among aesthetic plastic surgeons and patients and its impact on the plastic surgery practice were identified, as presented in the Table 3 [4, 5, 14, 17–21].

After surveying members of ASPS and BAPRAS (British Association of Plastic, Reconstructive and Aesthetic Surgeons), the results showed considerable usage of different social media platforms (e.g. social network websites, blogs, online forums) in their professional practice [17–20]. Social media utilisation among members of ASAP increased from 28.2 % in the year 2011 to 50.4 % in the year 2013 [17, 19]. The most beneficial factors of using social media were the enhancement of the advertising of their practice and the increase in patient volume promoted by positive feedbacks written by patients on social networking platforms. Detrimental aspects of social media were mainly due to patients' negative online comments on blogs and

Table 3 Studies analyzing utilization of social media among aesthetic surgeons and patients and its impact on plastic surgery practice

Author/year of publication	Subject/object of investigation	Relevant outcomes
Walden et al. 2010 [14]	100 post-operative patients after breast augmentation	4 % of patient use forums as a primary source of information regarding breast implants; 29 % learned about the possible complications of breast augmentation by reading weblogs
Wong et al. 2011 [18]	Plastic surgeons websites	Considerable connectivity to social media. 21–50 % had links to Facebook; 17–33 % to weblogs
Wheeler et al. 2011 [19]	1000 members of ASPA	28.2 % utilize social media in their practice. 78 % of surgeons' websites were connected to social media platforms. 62.4 % agree that social media could benefit their practice
Salzmann-Erikson et al. 2011 [21]	Breast augmentation forum	Forums can offer emotional support, tips on self management and general education to women considering or undergoing breast augmentation surgery
Szycha et al. 2012 [5]	44 post-operative patients after aesthetic rhinoplasty	10 % of patients actively participated in an online forum regarding rhinoplasty
Stevens et al. 2012 [20]	58 members of BAPRAS	36.2 % used social networking; 41.4 % used forums; 50.0 % used podcasts; 10.3 % wrote a blog; 31.0 % read a blog
Domanski et al. 2012 [4]	Social media website (www.realself.com)	Using the function “worth it”, abdominoplasty was ranked the highest (93 %)
Vardanian et al. 2013 [17]	500 members of ASPA	50.4 % utilize social media in their practice. 51.4 % of surgeons websites were connected to social media platforms 64.6 % did not feel social media had any impact on their practice, while 33.8 % felt positive and 1.5 % negative impact, respectively Regarding negative online comments, 42.6 % did not take any action, 36.5 % tried to encourage other satisfied patients to post positive comments, 10 % directly responded by defending themselves; a minority contacted in person the website owners, asking them to remove negative comments

forums, which discredited their practice. Surgeons' reactions to negative online comments differed, but most surgeons took no further action (42.6 %). Over one-third of the surgeons tried to encourage their satisfied patients to respond with positive online comments to those who had posted negative feedbacks, and half of them felt their responses were effective. Only 10 % of the surgeons directly replied to criticisms by defending themselves. A minority contacted in person the website owners, asking them to remove the negative comments.

The literature about the use of social media among patients remains scarce; however, two studies did objectively assess patients' use of online forums and weblogs prior to the consultation. The results ranged from 4 to 29 % [5, 14]. Online forums can also offer emotional support, tips on self-care management and general education for patients considering or undergoing breast augmentation [21]. Furthermore, one study showed that social media can serve as a tool for evaluating post-operative patients' satisfaction [4].

Results from Our Own Survey

The results from both questionnaires regarding our own experience at our clinic are represented in Tables 4, 5.

Almost all patients (95 %) had used the internet as a source of information and the majority of them found the information either very much (26 %) or much (47 %) beneficial to them. A high percentage of all patients (46 %) had consulted or used social media and among these, 40 % were strongly influenced by its content in choosing a specific clinic or a doctor. For 68 % of the patients, the internet was their first search method, 22 % spoke to a friend who underwent the same procedure and only a minority (5 %) went to see a doctor at another clinic or did not gather any information prior to their consultation (5 %).

Almost two-thirds of plastic surgeons (62 %) felt that the majority of their patients had already some knowledge about the procedure or about the surgeon they were consulting. The most beneficial means of information was considered talking to someone who had already undergone the same procedure (50 %), followed by reading informative material from “official” websites (43 %). None of the plastic surgeons who completed our questionnaire thought that forum and blogs would be a good source of information. Not surprisingly, on the other hand, 85 % of plastic surgeons thought that the information gathered on forums or blogs could be harmful to the patients. In their opinion, however, social media could lead to well-informed patients

Table 4 Answers obtained to an anonymous questionnaire for patients prior to their first consultation regarding aesthetic procedures. Complete list of five questions in text with answers presented in percentage

Questions	Percentage (%)
1. What was your very first approach when you started to gather information about plastic surgery? (Choose only one of the options)	
I spoke to friends who underwent the same procedure	22
I searched for information on Internet	68
I went to see a doctor at another clinic	5
I haven't gathered any information yet, this is my first step	5
2. Have you looked for information on internet about plastic surgery? (Websites, blogs, forum, etc.)	
Yes	95
No	5
3. If yes, do you think that the information that you gathered in the internet benefited you? (Websites, blogs, forums, etc.)	
Very much	26
Much	47
Not so much	26
Not at all	1
4. Do you read blogs or forums about aesthetic plastic surgery?	
Yes	46
No	54
5. If yes, did you choose our clinic or a specific doctor working at our clinic also because of the reviews that you read on blogs and forums?	
Yes	40
No	60

in 62 % of cases and to patients with unrealistic expectations in 38 % of cases. With the advent of social media, 45 % of plastic surgeons thought that it is easier to carry out a consultation, 29 % thought that it is more difficult and 26 % thought that it is the same as before. Overall, the majority of plastic surgeons (78 %) would not eliminate plastic surgery-related topics from the social media, while only 22 % would choose otherwise.

Discussion

Even if there was scarce patient information literature before the internet era, physicians were the main source of health-related information for patients and the consultation had a crucial role in patient's education [13]. Nowadays, patients increasingly entrust online health-related information, which can substantially influence their attitudes and beliefs towards aesthetic plastic surgery and its results [13, 14, 22]. Considering the fact that the majority of aesthetic plastic surgery websites contain some inaccurate or misleading information and the fact that the average patient has scarce health-related knowledge, it is extremely difficult to get reliable information quickly and easily [2, 3, 8, 12, 13].

Other surveys found that patients increasingly seek online information prior to their consultation, with a high

percentage of this being their initial search method [5, 11, 14–16]. Results of our own survey at our clinic showed that almost all the patients had used the internet as a means of gathering information (95 %) and that for 68 % of them it represented their first method of research. Utilisation of the internet in our study was considerably higher than in previously published studies. This higher incidence is likely to depend on the constant growth of internet use and on a very high percentage of internet users in our part of the world. Internet utilisation could have both beneficial and adverse effects on the consultations. On the one hand, well-informed patients have a higher level of participation which could improve their personal satisfaction and shorten the consultation time [2, 13]. On the other hand, it could also result in patients with unrealistic expectations. In such cases, longer educational time is needed before they are ready to undergo surgery [2]. It is well known that it is usually better to reject an aesthetic procedure on a patient with unrealistic expectations as it has a high risk for poor patient satisfaction [5].

Plastic surgeons cannot “fight” the internet and should not discourage patients from using it as a means of information, rather they should try and improve the quality of information retrievable on the internet and educate patients on its proper use. Clinics performing aesthetic plastic surgery procedures should provide their patients with as much informational material as possible: a high quality

Table 5 Answers obtained to an anonymous questionnaire for aesthetic plastic surgeons. Complete list of six questions in text with answers presented in percentage

Questions	Percentage (%)
1. Do you feel/know that patients who come and visit you for a consultation have already previously gathered information about you and/or about the procedure they intend to undergo?	
The majority of them (75–100 %)	62
Many (50–75 %)	38
Some (25–50 %)	0
A few (0–25 %)	0
2. Which mean of information would you mainly consider helpful to patients who seek for information before visiting you for their consultation?	
Speak to friends who underwent the same procedure	50
Read forums and blogs	0
Read “official” websites (such as your own website or other clinics’ or plastic surgeons’ websites)	43
Consult another plastic surgeon	7
It would be better if they had no information at all before meeting me	0
3 Which mean of information would you mainly consider harmful to patients who seek for information before visiting you for their consultation	
Speak to friends who underwent the same procedure	6
Read forums and blogs	85
Read “official” websites (such as your own website or other clinics’ or plastic surgeons’ website)	6
Consult another plastic surgeon	3
It would be better if they had no information at all before meeting me	0
4. Overall, in your own experience, do you think that social media can lead to: (express percentage by your feeling, total should be 100 %):	
Patients who are better informed about the procedure they intend to undergo	62
Patients with unrealistic expectations	38
I don’t think social media can influence patients	0
Other	0
5. After the advent of the social media, do you feel that carrying out a consultation is (express percentage by your feeling, total should be 100 %):	
Easier	45
More difficult	29
The same as before	26
6. If you could choose, would you eliminate plastic surgery related topics from social media?	
Yes	22
No	78

website with detailed information, pictures and videos; power point presentations containing explanations and details of the procedure; written material such as books and brochures; last but not the least, they should offer the possibility to contact the plastic surgeon or the clinic after the consultation in case more questions arise. When providing this high level of service, patients will not feel as much of a need to look for answers on inaccurate internet websites or social media.

In recent years, there has been a shift from “static” internet sites to “dynamic” social media platforms, which has started to alter the way information is gathered [23]. Aesthetic plastic surgeons are also starting to be well aware of this fact and are incorporating social media into their everyday practice (e.g. links from their websites) [14, 18–20]. Most surgeons agree that social media have an overall

positive impact on their practice, especially in enhancing advertisement, which can result in an increase in patient volume [17, 19, 23]. In one study, 33.8 % of aesthetic plastic surgeons reported a positive impact of social media on their practice and only 1.5 % reported negative experience [17]. Our survey showed that surgeons think (62 %) that social media can on one hand lead to well-informed patients but on the other hand can be the reason for unrealistic expectations (38 %). The majority of them (85 %) think that social media can be a harmful method of information; however, 78 % still think that plastic surgery-related topics should remain available in social media.

From a patient’s perspective, social media can provide them with a first-hand piece of experience from other patients who are also thinking and/or have already undergone the same procedure. Internet forums can also

represent a means for gaining emotional support, tips on self-management and general information about a specific topic in aesthetic plastic surgery [4, 21]. In fact, the result from our survey showed that 72 % of patients found information on the internet “very much” or “much” beneficial. A similar study showed that 83.3 % of patients thought that medical information gathered on the internet benefited them ‘very much’ or ‘moderately’ in making a decision on whether or not they should undergo surgery, while 44.4 % of patients thought that the data retrieved on the internet helped them be better prepared for the consultation [5].

Social media also represent an easy way for patients to express their disappointment or “anger” after surgery, by posting negative or hostile comments about a specific clinic or plastic surgeon. This can of course generate rumours, which can have a long-lasting effect [3, 4, 17, 23]. The impact becomes even greater, if you consider that the negative comments on the social media platforms generate more “hits” on an internet search engine because the surgeon’s or the clinic’s name are specifically mentioned [22]. It is a fact that more and more patients prior to the consultation are reading internet forums, where shared information is totally unregulated and can be biased [5, 14].

Because of this phenomenon, one of the growing topics is how to react and handle these negative online reviews, considering the fact that they can have an important negative impact on one’s everyday practice. Some authors think that replying to adverse reviews in a constructive manner is crucial, as this might somehow “soften” the negative impact in the eyes of the readers [24]. One survey showed that the majority of plastic surgeons would not take any further action after reading a negative review. The rest of them would either encourage other satisfied patients to post positive feedbacks, just so the beneficial reviews would outshine the bad ones, or would respond directly to a negative comment in a defensive way. A minority of the plastic surgeons would contact the website authorities, asking them to remove the unfavourable reviews [17].

Results from our own survey showed a remarkably high utilisation rate of internet blogs and forums, as almost half of our patients (46 %) sought information on such social media platforms. Among these, 40 % were strongly influenced by the reviewed content and accordingly chose our clinic or a specific doctor working at our clinic. This means that a series of positive or negative feedbacks posted on a social media can actually actively influence some patients in their decision on whether or not they should choose a specific clinic or doctor. Also, we felt that the majority of patients who had unrealistic expectations were those who were actively enrolled in an online forum or read online posts on social media. Engaging with such patients can be extremely challenging. Despite the negative effect that social media can

have on some patients, most plastic surgeons who were involved in our study still thought that the course of consultations was easier in 45 % of cases after the advent of social media, and more difficult in only 29 % of cases.

Conclusion

In this survey, it is documented that now, in the internet era, most patients are already well informed prior to their first consultation. The impact of this can be both beneficial and harmful: on one hand, having well-informed patients facilitates their participation and understanding, but on the other hand, a substantial misinformation is also present on the net, which may make the consultation more difficult. All plastic surgeons need to understand this phenomenon and learn how to deal with it in an advantageous way. Obviously, the face-to-face consultation is still—and should always remain—central in creating trust and providing objective information about a procedure.

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References

1. Fox S, Duggan M (2013) Health Online 2013. PewResearch Internet Project. <http://www.pewinternet.org/2013/01/15/health-online-2013/>
2. Jejurikar SS, Rovak JM, Kuzon WM, Chung KC, Kotsis SV, Cederna PS (2002) Evaluation of plastic surgery information on the internet. *Ann Plast Surg* 49:460–465
3. Gordon JB, Barot LR, Fahey AL, Matthews MS (2001) The Internet as a source of information on breast augmentation. *Plast Reconstr Surg* 107:171–176
4. Domanski MC, Cavale N (2012) Self-reported “worth it” rating of aesthetic surgery in social media. *Aesthet Plast Surg* 36:1292–1295
5. Szychta P, Zielinski T, Rykala J, Witmanowski H, Kruk-Jeromin J (2012) Role of the internet in communication between patient and surgeon before rhinoplasty. *J Plast Surg Hand Surg* 46:248–251
6. Fox S (2011) Peer-to-peer Healthcare. PewResearch Internet Project. <http://www.pewinternet.org/2011/02/28/peer-to-peer-health-care-2/>
7. Zaidi FH, Jones CA (2009) Informing patients: oculoplastic surgery and the internet. *Eye* 23:2090–2093
8. Parikh AR, Kok K, Redfern B, Clarke A, Withey S, Butler PE (2006) A portal to validated websites on cosmetic surgery: the design of an archetype. *Ann Plast Surg* 57:350–352
9. Smarrito S, Mitrofanoff M, Haddad R, Pavy B (2003) Do we need a chart of quality for websites related to cosmetic surgery? *Ann Chir Plast Esthet* 48:222–227
10. Liao LM, Taghinejadi N, Creighton SM (2012) An analysis of the content and clinical implications of online advertisements for female genital cosmetic surgery. *BMJ Open*. doi:10.1136/bmjopen-2012-001908

11. Nassab R, Hamnett N, Nelson K, Kaur S, Greensill B, Dhital S, Juma A (2010) Cosmetic tourism: public opinion and analysis of information and content available on the internet. *Aesthet Surg J* 30:465–469
12. Aliu O, Chung KC (2010) Readability of ASPS and ASAPS educational web sites: an analysis of consumer impact. *Plast Reconstr Surg* 125:1271–1278
13. Hoppe IC, Ahuja NK, Ingargiola MJ, Granick MS (2013) A survey of patient comprehension of readily accessible online educational material regarding plastic surgery procedures. *Aesthet Surg J* 33:436–442
14. Walden JL, Panagopoulous G, Shrader SW (2010) Contemporary decision making and perception in patients undergoing cosmetic breast augmentation. *Aesthet Surg J* 30:395–403
15. Wong WW, Camp MC, Camp JS, Gupta SC (2010) The quality of internet advertising in aesthetic surgery: an in-depth analysis. *Aesthet Surg J* 30:735–743
16. Fansa H, Haller S (2011) Patients' decision for aesthetic surgery. *Handchir Mikrochir Plast Chir* 43:368–375
17. Vardanian AJ, Kusnezov N, Im DD, Lee JC, Jarrahy R (2013) Social media use and impact on plastic surgery practice. *Plast Reconstr Surg* 131:1184–1193
18. Wong WW, Gupta SC (2011) Plastic surgery marketing in a generation of “tweeting”. *Aesthet Surg J* 31:972–976
19. Wheeler CK, Said H, Prucz R, Rodrich RJ, Mathes DW (2011) Social media in plastic surgery practices: emerging trends in North America. *Aesthet Surg J* 31:435–441
20. Stevens RJG, Hamilton NM, O'Donoghue JM, Davies MP (2012) The use of the internet and social software by plastic surgeons. *Eur J Plast Surg* 35:747–755
21. Martin Salzmann-Erikson RN, Henrik Eriksson RN (2011) Torrenting values, feelings, and thoughts-cyber nursing and virtual self-care in a breast augmentation forum. *Int J Qual Stud Health Well-Being*. doi:10.3402/qhw.v6i4.7378
22. Carraway JH (2006) Internet medical marketing: “Anything goes”? *Aesthet Surg J* 26:188–189
23. Rohrich RJ (2001) The web and your cosmetic surgery practice. *Plast Reconstr Surg* 107:1253–1254
24. Camp SM, Mills DC (2012) The marriage of plastic surgery and social media: a relationship to last a lifetime. *Aesthet Surg J* 32:349–351