Use of the Internet as a source of information about plastic surgery in Bahia, Brazil

O uso da internet como fonte de informação sobre cirurgia plástica na Bahia, Brasil

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ABSTRACT

Background: The Internet has become one of the most important sources of health information. However, few studies have assessed the characteristics of Internet usage by patients or how the information obtained affects decisions to undergo surgery. This study describes the characteristics of Internet usage by patients who intended to undergo plastic surgery at the Unified Health System (SUS) and private networks and how it affected their confidence. **Methods:** A cross-sectional observational study was performed using data collected by 200 surveys filled out by patients before the operation. One hundred surveys were sent to patients attending the outpatient clinic of Plastic Surgery of Professor Edgard Santos University Hospital (SUS), and the remaining 100 to patients treated in private health clinics in Salvador, BA. **Results:** The frequency of Internet use to seek health information on plastic surgery differed significantly between the SUS (n = 24; 24%) and private health services (n = 64; 64%). Most of the patients (n = 48; 54.5%) visited 1 to 3 sites. The websites of plastic surgery centers were the most sought (n = 74; 84.1%), followed by the Brazilian Society of Plastic Surgery website. Half of the patients reported the existence of contradictory information. Moreover, 71 (80.7%) of the respondents reported feeling that undergoing surgery was safe. **Conclusions:** The Internet was widely used to seek information on plastic surgery. Although visited sites contained contradictory information, most patients felt safe before undergoing their desired surgery.

Keywords: Internet. Information. Plastic surgery.

RESUMO

Introdução: A internet se tornou uma das mais importantes fontes de informação sobre saúde. Poucos estudos avaliam as características do acesso à internet pelos pacientes e a influência das informações obtidas na decisão em realizar uma cirurgia. O objetivo deste estudo é descrever as características do acesso à internet pelos pacientes do Sistema Único de Saúde (SUS) e da rede privada que pretendem se submeter a uma cirurgia plástica, bem como avaliar o impacto do acesso na confiança do paciente em realizar o procedimento. **Método:** Realizado estudo observacional de corte transversal com uso de dados coletados por meio de 200 questionários respondidos por pacientes ainda não operados, sendo 100 dirigidos aos pacientes atendidos no ambulatório de Cirurgia Plástica do Hospital Universitário Professor Edgard Santos (SUS) e 100, aos pacientes atendidos em consultório da rede privada de saúde, na cidade de Salvador, BA. **Resultados:** A frequência do acesso à internet na busca por informação sobre cirurgia plástica foi significativamente diferente entre o SUS (n = 24; 24%) e a rede privada (n = 64; 64%). A maioria dos pacientes (n = 48; 54,5%) acessou um a três sites. Os sites de clínicas de cirurgia plástica foram os mais procurados (n = 74; 84,1%), seguidos pelo site da Sociedade Brasileira de Cirurgia Plástica.

This study was performed at the Universidade Federal da Bahia (Federal University of Bahia), Salvador, BA, Brazil.

Submitted to SGP (Sistema de Gestão de Publicações/Manager Publications System) of RBCP (Revista Brasileira de Cirurgia Plástica/Brazilian Journal of Plastic Surgery).

Article received: July 22, 2012
Article accepted: October 15, 2012

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Cinquenta por cento dos pacientes afirmaram ter encontrado informações contrárias sobre um mesmo assunto. Ainda assim, 71 (80,7%) dos entrevistados afirmaram se sentir seguros em realizar a cirurgia. **Conclusões:** A internet foi significativamente utilizada na busca de informações sobre cirurgia plástica. Independentemente da contradição entre as informações encontradas nos sites, a maioria dos pacientes sentiu-se segura em realizar o procedimento cirúrgico desejado.

Descritores: Internet. Informação. Cirurgia plástica.

INTRODUCTION

The Internet has become one of the most important sources of health information. There are over 2 billion Internet users worldwide, having increased by 480% since 2001[1]. It is estimated that 80% of Americans use the Internet to seek health information. Among them, 70% report that the information found influences their decision to undergo treatment[2]. A study in Brazil reported that 44.7% of participants sought information concerning the health of their children[3]. The extensive health content available on the Internet, high accessibility, and the desire of patients to acquire a certain level of knowledge explain the frequent use of this resource.

Despite the widespread use of the Internet, the quality of the information available on different medical topics has been questioned[4-9]. Regarding plastic surgery, 34% of sites related to "breast augmentation" provide false or misleading information on this surgical procedure as well as its benefits and risks[10]. Another study reported availability of poor-quality information on blepharoplasty, partially due to the large numbers of commercial sites, i.e., private health clinic websites[11]. However, few studies have assessed the characteristics of Internet usage by patients and how the information obtained affects their decision to undergo surgery.

This study describes the characteristics of Internet usage by patients who intended to undergo plastic surgery at the Unified Health System (SUS) and private health services and assessed how the information obtained from the Internet affected their confidence.

METHODS

Study Design

An observational, cross-sectional study of collected data was conducted using a confidential survey.

Population and Sampling

The patients included in the study attended the outpatient clinic of Plastic Surgery at Professor Edgard Santos (HUPES) University Hospital and private health clinic services in Salvador, BA. A total of 200 questionnaires were evaluated. SUS patients responded to 100 surveys, whereas patients from private health clinic services responded to the remaining 100. Approximately 100 patients attend the SUS outpatient clinic of HUPES in 1 month.

Data were collected between August and September 2011. The study included male and female non-operated patients aged ≥ 18 years who were in the waiting room before being attended to. These patients represent a non-probabilistic convenient sampling. Among 200 patients, there were 161 (80.5%) women and 39 (19.5%) men. The average age of the patients was 37.9 ± 11.69 years. One hundred (50%) patients came from the SUS, while the remaining 100 (50%) came from private health clinic services.

Surveys

The questionnaire contained information on the patients' age, type of surgery that would possibly be performed, number of websites on plastic surgery visited, types of websites and their content, reliability of the information, and influence of the information on the patient's decision to undergo surgery. Medical students were available to address any questions while subjects filled out the questionnaire.

Statistical Analysis

The data were collected and descriptively analyzed using SPSS version 17.0. Pearson's χ^2 test and Fisher's exact test were used to compare categorical variables. The level of significance was set at $P < 0.05$.

Ethical Procedures

Before being implemented, the study design was evaluated by the Research Ethics Committee of HUPES. Each participant signed a Free and Informed Consent Form (ICF) that gave permission to conduct this study and disseminate the results. Therefore, all individuals were informed of the study and had the right to refuse to participate if not interested or if the continuation of the project was considered unimportant.

RESULTS

Patients attending the SUS and private health clinics exhibited significant differences with respect to the frequency

of the use of the Internet to seek information on any type of disease (Table 1) and plastic surgery (Table 2).

Patients who had already performed Internet research on plastic surgery were instructed to continue answering the questionnaire. A total of 88 individuals met this criterion, including 24 (27.3%) from the SUS and 64 (72.7%) from private health services.

Of the 88 patients who had already sought online information on plastic surgery, 48 (54.5%) visited 1–3 websites; 21 (23.9%), 4–7; and 19 (21.6%), > 7. There was a significant difference in research patterns between patients from the SUS and those from private health services ($P = 0.008$) (Figure 1).

There were no significant differences between patients from SUS and those from private health services with respect to the following parameters: types of websites visited, most desired procedure and its surgical aspects, contradictory information found, reliability of the content, and patients' confidence in the procedure they were about to undergo.

Websites related to plastic surgery clinics were the most visited and were sought by 74 (84.1%) patients. The Sociedade Brasileira de Cirurgia Plástica/Brazilian Society of Plastic Surgery (BSPS) website was viewed by 29 (33%) patients. Seven (8%) patients visited fashion websites, and 5 (5.7%) sought information on networking sites and blogs. When asked whether they viewed other type of websites, 3 (3.4%) patients answered that they researched on YouTube®.

Among the procedures researched online, the most common was breast surgery, researched by 63 (71.6%) patients, followed by liposuction (45 [51.1%] patients), abdominoplasty (41 [46.6%] patients), and reparative surgeries 21 [23.9%] patients). When asked if they researched other topics, 4 (4.5%) patients reported seeking information on blepharoplasty and 3 (3.4%) on rhinoplasty.

Regarding the aspects of the most researched surgical procedures, 41 (46.6%) patients sought images mainly related to "before and after" surgery; 24 (27.3%), to surgical complications; and 23 (26.1%), to indications for the procedure.

Among 88 patients, 44 (50%) found contradictory information in their search.

Patients were subsequently questioned about the reliability of the information found online. Fifty-three (60.2%) patients reported not knowing whether the information was reliable; 32 (36.4%) considered the information reliable, and 3 (34%) found it unreliable.

Patients were asked if they felt safer undergoing the surgery after the online search despite the information acquired; 71 (80.7%) responded positively.

Table 1 – Internet research about any health condition.

	Have you researched several health conditions online?			
	Yes n (%)	No n (%)	Total n (%)	*P* value
SUS	32 (32)	68 (68)	100 (100)	0.000
Private network	78 (78)	22 (22)	100 (100)	
Total	110 (55)	90 (45)	200 (100)	

Table 2 – Internet research about plastic surgery.

	Have you researched plastic surgery online?			
	Yes n (%)	No n (%)	Total n (%)	*P* value
SUS	24 (24)	76 (76)	100 (100)	0.000
Private network	64 (64)	36 (36)	100 (100)	
Total	88 (44)	112 (56)	200 (100)	

DISCUSSION

Although the Internet has become a main source of information in the 21st century, it is not widely used as an initial source of knowledge on plastic surgery. Patients use the Internet to establish contact with physicians. They also look for support, alternative responses, and affirmation of information obtained[12].

Regardless of the health system used, most patients know that plastic surgery involves cosmetic and reparative procedures. The fact that many SUS patients consider that only reparative procedures are performed in plastic surgery may indicate a bias, because they have been already recommended for reparative surgery, which is the most common first contact with this specialty. This differs from the results of a European study emphasizing that media strongly influences the notion that plastic surgery is merely for aesthetic purposes. Among a total of 1,191 articles published in British journals in 2006, 89% use the term plastic surgery synonymously

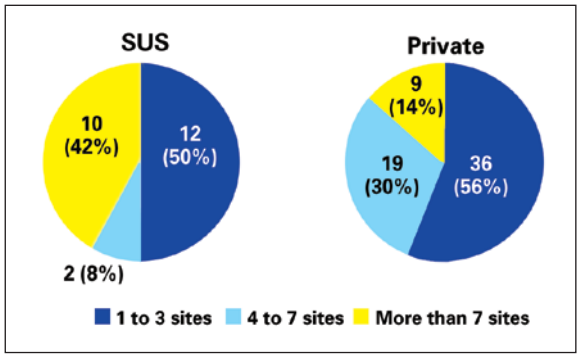

Figure 1 *– Numbers of websites accessed by patients from the SUS and private health services.*

with cosmetic surgery; only 10% describe such procedures as reconstructive[13].

Given the extensive socioeconomic disparity between patients attending the SUS or private health services, the general lack of online research on health information and plastic surgery may be due to difficulty in accessing the Internet. In a study carried out in Canada, Fogel[14] investigated the prevalence and predictors of Internet use for seeking medical information among women with breast cancer; most patients were of high socioeconomic status. Another study found sporadic use of the Internet by legal guardians of children with urologic diseases attending the public health services; however, there was no statistical difference in the seeking of health information between children attending public health services and those attending private health services[3]. The discrepancies between the present and previous studies may be attributable to different target audiences. Legal guardians tend to be more concerned about the health of their children.

Although patients from the SUS and private health services predominantly undergo the same types of surgery, the former undergo approximately equal amounts of cosmetic and reparative surgery. The number of websites visited when seeking information on this subject was proportionally higher in the group of patients from the SUS. Unlike cosmetic surgeries, in which the operated area of the body is physiologically normal, reconstructive procedures aim to improve a part of the body that has lost its function and sometimes its shape. The profile of patients who undergo reparative surgeries differs from those requesting cosmetic procedures because reparative surgeries are mandatory. Therefore, it can be inferred that compared to patients undergoing cosmetic procedures, those referred for reparative surgeries tend to worry more about procedures and complications.

The limited number of websites visited by patients diminishes the probability of finding high-quality information. Patients presumably find these websites using search engines such as Google®. Pealer & Dorman[15] conducted a study on access to online information and reported that some of the methods used by search engines to rank the appearance of websites include the degree of innovation, which correspond to graphics, sound, and color; these criteria are arbitrary and without any scientific basis. This is worsened by the fact that many patients visit only the first few search results. A study shows no correlation between the ranking of the websites indexed by Google® and the quality of their information[16].

Sites related to plastic surgery clinics were most often visited by patients, followed by the BSPS website. A survey assessing the quality of websites related to blepharoplasty shows that private clinics are among the worst, together with "question-and-answer" sites, advertisements, and professional websites[11]. Patients should be encouraged to seek information on the BSPS website because of its scientific content.

Breast surgery was the leading topic searched online in the present study. In Brazil, mammoplasty surpassed liposuction in 2009 and today accounts for 33% of cosmetic surgeries performed. The profile of patients interested in plastic surgery who accessed the Internet matches that of the Brazilian population. Cosmetic surgery corresponds to 69% of the surgical procedures in the specialty[17]. The increasing number of patients interested in this type of surgery is the main reason for the increasing frequency of such research.

Most patients focused their research on pictures obtained before and after surgeries. The BSPS has repeatedly expressed its concern and outrage over different forms of disclosure that involve the term "plastic surgery" and are transmitted through mechanisms of mass communication including the Internet, branches, kiosks, and other media broadcast in malls and supermarkets[18]. "Before-and-after" pictures are not recommended, although they are common because of a lack of ethics regarding the individuality of results after any medical intervention.

Regardless of the controversial information found online and the uncertainty of its reliability, most patients felt safe undergoing their desired surgery after studying online content. This is concordant with the findings of a study that investigated patients' experience with online research on burns; 97% of the participants using the Internet considered their research useful[2]. Two hypotheses may explain these results. The first hypothesis is based on the discrimination of content posted on websites. The Internet is considered democratic, because it enables any individual to post information without certifying its authenticity. Both related professionals and lay individuals perform online research of health and medical information. However, although doctors visit websites below linguistic and scientific formatting standards, they manage to obtain quality technical information[19]. The characteristics associated with high-quality health sites may assure doctors about the reliability of the information. Moreover, some quality parameters are required to indicate which websites are inaccurate. The following items are included as criteria for good information: little or no advertising; date of the last update; authorship of the article found; indication, risks, and benefits of the surgery; type of anesthesia; duration and description of postoperative recovery; alternatives to the procedure; cost; consequences if the patient refuses to undergo surgery; and where to obtain a second opinion on the subject[20]. The second hypothesis is that patients assume that assessment of the safety of the surgery is the responsibility of the physician. These patients do not use the Internet to decide whether to undergo surgery; instead, their online research aims to acquire knowledge on the subject, assuming it will bring some relief to the anxiety caused by undergoing an unknown procedure. Provision of accurate information to patients attenuates postoperative

symptoms, thus improving satisfaction and quality of life after the procedure; however, the outcome of surgery is not negatively influenced if this information is not provided[21].

CONCLUSIONS

The frequency of Internet use to research plastic surgery was high. Patients attending private health clinics performed significantly more research than those attending public health services. The characteristics of Internet use reveal that patients researched few websites. Half of the subjects reported that sites contained contradictory information on the same subject, although this did not significantly affect their confidence.

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