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Web 2.0: How Social Networking Sites are Impacting Dentistry

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ABSTRACT

The popularization of Social Networking Sites (SNSs) is changing the behavior of human society in several ways and very quickly. Applications of Web 2.0 permit new forms of interaction with others, renew the learning process of Universities, and modify how people consume products and services. This phenomenon regularly occurs, making SNSs omnipresent: people can be connected with others all the time and anywhere. Although some health professionals remain resistant to new internet-based technologies, the reality is that more than 1 billion people have an account on Facebook. This is currently the most popular SNS worldwide, but there are many other examples, such as YouTube, LinkedIn, Twitter, Second Life, and Instagram. In these applications, people can be connected to each other and share thoughts, creations, opinions, and knowledge. Therefore, to be online on Web 2.0 and SNS is no longer a business choice for most practitioners and professors. Students and consumers are on line, specially the younger ones. In order to illustrate the diverse ways that social-media can be used in the dentistry field, this article provides some examples of how health professionals use SNSs as a pedagogical tool in order to enhance their students' participation in the learning process, promote dental services, and create a communication channel with patients. We also discuss implications regarding online professionalism and ethics for students and practitioners by referring to some of the topics presented in the polices of dental schools in the United States (US) and in the US Health Insurance Portability and Accountability Act (HIPAA).

KEYWORDS: Social Networking Sites; Dental education; Marketing; Dentistry; Professionalism.

INTRODUCTION

Since the first e-mail was sent in 1971,[1] it is easy to see how the Internet has deeply changed society with respect to communication and information exchange. In addition, the Internet has impacted people's daily habits, and the own concept of Internet is continuously evolving.

The first period in the history of the Internet, known as Web 1.0, was characterized by a content-generated monopoly created by companies and the press, and people were only information consumers. However, this evolved into the second, current, period, which is known as Web 2.0. This latter period is characterized by users generating content through tools, applications, and approaches called social media, and this social phenomenon is resulting in new forms of interactions and social relations between people.[2-4] Social media is built on the technological foundations of Web 2.0, and usage numbers demonstrate its importance to society: 1.32 billion people use Facebook each month,[5] which represents approximately one-seventh of the global population. Therefore, discussing whether dental professionals should or should not be using social media is irrelevant.

Facebook is considered the largest and most famous social media site worldwide, but there are many other types of social media available for people to use. These applications can be used for personal (e.g., increasing connections to others), educational (e.g., by educations as a pedagogical tool), and marketing or other professional uses (e.g., by health professionals to create a relationship with their patients or to promote dental services).The aim of this article is to provide an overview of usage of Social Networking Sites (SNSs) regarding the educational and marketing aspects of dentistry. In addition, implications of SNS usage on privacy and professionalism are discussed in terms of the policies of some dental schools in the United States (US) and the US Health Insurance Portability and Accountability Act (HIPAA). Finally, recommendations regarding how dental professionals can make better use of this technology are offered.

MARKETING OR PROFESSIONAL USAGE OF SNSs

Although the recent popularization of SNSs makes social media appear as a new concept, it is not. Usenet, a web-based site that allowed people to discuss and publish public messages, was developed in 1979 by professors from Duke University. However, the era of social media seems to have officially begun in 1998 when Bruce and Susan Abelson founded "Open Diary," a community of writers that gathered daily. This platform was the precursor of what is today known as a daily blog.[6]

Although Facebook is currently the most popular SNS, there is much diversity across different SNSs. Today, people can socialize; learn; express themselves; articulate ideas; publish photographs, images, videos and texts; and connect with people who share similar interests online such as Facebook, LinkedIn, Twitter, YouTube, Pinterest, Instagram, Snapchat, MySpace, Flickr, WordPress, Blogger, Wikipedia, Wetpaint, Wikidot, Second Life, Reddit, and Tumblr. The different social-media applications are classified by type in table 1.

Because all of the aforementioned SNSs and abilities are web-based, social media has become omnipresent. In other words, with just an internet connection, people can stay connected with others using a variety of devices (e.g., computers, tablets, or mobile phones) and can have access to the information everywhere at anytime. In this context, it can be seen that the development of social media has created a new scenario. Before the evolution of Web 2.0 and SNSs, the Internet was characterized by the one-way flow of information from companies to users. Web 1.0 was saturated with websites containing information generated by companies and the press, and people were mere observers. In one respect, this was an ideal scenario for business marketing because consumers could only see the information the companies wanted to share, and only in the way that the companies wanted them to see it. Thus, the companies had great control of their reputation online.

Currently, people can express themselves, generate content for others, and state opinions about the news, products, or services *via* forums, posts on Facebook, 140-character messages on Twitter, or YouTube videos. These types of content can easily reach a large number of people on the seven continents within a few minutes, and can, in many cases, influence their behavior. Moreover, the use of social media by companies' marketing departments is already consolidated, and the literature contains a number of successful demonstrations and reported benefits.[7] However, dental-care service providers are just beginning to experiment with using social media to promote services.

Application	Type/description	Examples
Blog	A log about some specific subject. In general, there is no limit of space for publications. People can interact with contend by commentaries.	Wordpress Blogger
Microblog	A limited space to express ideas, images and links. People	Twitter
Social interaction	Sites to promote integration and interaction between person to person and person to business.	Orkut Facebook
Content Communities	Online platforms for organizing and sharing collaborative generated content.	Youtube Flickr Wikipedia
Forums/ bulletin boards	Web spaces for exchanging information about some specific interest/product/service.	Epinions Amazon
Content aggregators	Sites that use Rich Site Summary (RSS) in order to allow users to customize web content according to their desires.	Picasa It is used for some web Browsers.
Social Worlds	Games to simulated real life in a virtual environment.	Second life.

Table 1: Adapted from Constantinides E.[7]

There is great potential for worldwide exposure and enhanced communication with patients at a low cost.[8]

In a 2012 survey of 550 US practitioners, approximately half of the respondents declared that they were making use of social media as a marketing strategy for their practice, and Facebook, LinkedIn, and Twitter are the most frequent sites used. Marketing, communication with patients, and having a better online presence were the most common motives for practitioners to be on SNSs. However, at the same time, nearly half of the respondents who used social media declared they did not know how to measure the success of online strategies.[9]

In order to encourage and guide practitioners regarding the use of SNSs, Jorgensen,[10] a private practitioner, listed and described the top 5 most useful social media sites for orthodontists. The author's list included Twitter, YouTube, blogging, Facebook, and Google Place, which was the number one site. Google Place is a service from Google that automatically lists commercial places that have a physical address. Initially, Google Place only includes basic information (e.g., the practitioner's name, address, and telephone number), but it offers the possibility of editing the page to add information (e.g., the logotype, website address link, etc.).[10]

More recently, Cox and Park illustrated the importance of having an online presence. They created a 35-item survey about orthodontic patients' Facebook usage. The authors discovered that although 76% of respondents were likely to visit the professional's webpage before the first consultation, 35% declared that the professional's Facebook page could influence their final choice of an orthodontist. The authors concluded that Facebook is a valuable marketing approach for dental professionals.[11]

Although being on SNSs could enhance the health professional's online presence, there are serious implications regarding privacy. Jain, an doctor, described a dilemma that occurred when a patient sent a "friend request" to his personal Facebook account. This situation could be encountered by any student or professional. Accepting the friend request could discourage some online posts and/or status updates that may contain unsuitable content for that audience (e.g., photos of his family vacation on the beach). If the professional does not accept the friend request, this could cause social tension and discomfort for the patient and possibly disrupt a future interaction in real life.[12]

Dental Education in the Social-Media Era

Undergraduates are massively connected to social media,[13-15] and some educators can use that as a tool to enhance communication, collaboration, and student participation in academic activities. Professors and students can also access information about books, new publications, and library locations using social media.[16] There are infinite possibilities for applying social media to dental learning;[17] however, the use of social-media applications is new in the academic field.

George and Dellasega used several social-media applications in their medical humanities classes. In one presented case, the students created a video of their work with elderly residents with memory loss. The video can be seen on YouTube (https://www.youtube.com/watch?v=BOxdpyB0g1I). The authors concluded that this experience was more effective than traditional methods.[18]

In order to maximize students' learning, nursing students at Queens University of Charlotte were asked to generate short messages regarding key course concepts to the class on Twitter. The students all considered the use of Twitter as a study aid favorably.[19] Estus[20] used Facebook to enhance student-patient group communication in an elective geriatric pharmacotherapy class by creating a discussion board. The author identified certain benefits, such as the interest of older patients in Facebook and the opportunities to discuss with students the content posted on their Facebook pages. However, she also concluded that students' connections to the site were not for educational purposes.[20]

To improve the training and habits of health care students, educators could use virtual reality (e.g., the game Second Life), a type of SNS that recreates the three-demensional enviroment (or a parallel world) in which people interect via avatar representation. In this virtual world, the health care student can make clinical decisions, pratice diagnostics, determine a treatment plan, and virtually practice some dental procedures. This methodology could provide a measure of security for the students during real patient-professional interactions, thereby decreasing anxiety.[21]

However, the introduction of these new technologies takes time and the knowledge of educators, who could demonstrate an aversion to them. Arnett et al. assessed the attitudes about social media of faculty members from five dental schools. Most of the respondents were over the age of 50 years and demonstrated a barrier to use of these applications in the classroom. Their stated concern was the time to prepare the content and privacy issues.[17]

The use of SNSs remains a challenge for dental educators. While future students could be considered "native digital students", or people who were born into the Internet era, they do not necessarily know how to employ technological strategies to optimize their learning experiences.[22] Moreover, professors who are responsible for providing guidance to these students could feel some resistance, experience difficulties, and be unfamiliar

with using SNSs in the classroom.[17] One reservation is that the use of social media in the educational field is recent; whether use of these tools actually results in real improvement or the broadening of students' skills and knowledge needs to be further analyzed.[23, 24]

PROFESSIONALISM IN SOCIAL MEDIA

When social media is combined with dentistry, or any other health care field, professionals may engage in unprofessional behavior. Our group analyzed more than 1,000 posts on Facebook from 56 Brazilian dental professionals' fan pages and discovered some practices that were inconsistent with the Brazilian Ethics Code for Dentistry. For example, there were advertising contests in which patients could win a dental bleach treatment and instances of one professional disparaging the treatment done by another dentist. There were also publications of "before and after" images of treatments that included exposure of the patients' faces, for which we could not determine whether informed consent had been obtained.

These sorts of scenarios are of particular concern when we consider "Net Generation" (i.e., the people who were born between 1980 and 1994[25] for whom the use of the Internet may be intrinsic and who may consider the Internet as a part of their personal identities). This intimacy and facility of use regarding SNSs tools may have an impact on professionalism on the Internet.[26-29] In order for health care faculty and students to avoid inappropriate online behavior, some US universities have created polices to guide behavior both on- and offline.[25,30] Kind et al. found in 2010 that only 10% of medical schools in US had specific policies regarding social media,[30] most likely because the popularization of social media and concerns about what students publish is relatively recent. To aid reflection, we have presented a list of points included in US medical schools' polices[30] and in HIPAA regarding use of social media by students and staff:

• Discouragement of the use of electronic media (e.g., cell phones, fax, and email) to transmit confidential content about patients;
• Prohibition of communication with patients on social networks;
• Suggestion to use the privacy functions on SNSs;
• Suggestion to reflect on the content before publishing any content regarding professionalism;
• Prohibition to publish photographs with patients without consent and discouragement of taking pictures of patients using cell phones;
• Statement that students and staff are responsible for their publications;
• Statement that the student is considered an official university representative;
• Prohibition of posting confidential patient information;
• Statements regarding vulgar language; disrespectful and discriminatory content with respect to age, race, gender, ethnicity,

sexual orientation; and posts regarding excessive use of alcohol, substance abuse, and sexually suggestive material;
• Reminder that students' professional behavior on- and offline reflect on both the user's and the organization's image.

Despite guidance and ethical classes on curricula, incidents involving unprofessional content published online could be identified by most medical schools' student-affairs deans,[31] and several cases involving students violating conduct codes by posting impermissible content could be found in court records. The consequences for these behaviors were expulsion, suspension, and charges by local law-enforcement agencies.[26] It is also important to note that even though the students were punished, these cases had repercussions that could damage the images of both the user and institution.[32]

RECOMMENDATIONS

Social media comprises part of the day for approximately 1 billion people, and, thus, it is inevitable that dentistry professionals become comfortable with it for professional, educational, and personal purposes. For practitioners, participation in social media must be part of marketing strategies. Consumers are online talking about what they like, including service providers, and social media facilitates "word-of-mouth" recommendations. In order to have a quality social-media presence, professionals must be dedicated to creating interesting and highly presentable content for the public that is engaging and promotes interaction. One way is to regularly spend some time managing social media, visiting patients' personal pages, and responding to comments. When doing so, all the published information must be reviewed with regard to professionalism and ethics, and the person publishing the content should reflect on the content before publishing it.

We also recommend that dental practitioners have separate personal and professional SNS accounts. The personal profile must have the privacy settings activated and be restricted to friends, family, and private interests. This type of account organization prevents patients from accessing the professional's personal life, protecting their privacy.

Facebook, for example, has privacy settings that allow users to keep their information safe. Another interesting configuration permits user to actively allow the publications made by others else on the user's page; this also the user to prevent his/her friends from seeing certain posts. Many SNSs also permit users to separate friends into groups. After separation, the user can choose which group can access certain content.

In the dental education field, in order to captivate the attention of a new generation of students, educators must monitor technological advances and use them to facilitate improvements to learning and generate better experiences for students. For this reason, we encourage an increase in the use of these

tools even though the literature on this subject is small. Moreover, professors have an impact on students' education regarding professionalism and professional ethics and should ensure adequate use of these tools during undergraduate courses and in their professional lives.

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