

The Impact of Social Media Network Websites and Their Influences among Dental Professionals and Dental Students in Chandigarh: A Cross Sectional Online Survey

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Abstract

Background: Social Media has become a popular method for sharing information and knowledge of oral and systemic health among Dental professionals and dental students. This computer mediated technology allows people to share information with each other and it involves whole community rather than an individual. The key factor of patient communication has been also made easy with new advances of Social Networking Sites.

Aim & Objective: To assess the usage of social media networking sites by Dental professionals and Dental students and to investigate the potential benefit of social media in marketing and communication strategies in Dental practice.

Material & Methods: A cross-sectional online survey was conducted on 150 practicing dentists and Dental students in Chandigarh. The study was self-administered questionnaire-based online survey consisting of 20 questions related to the usage and various aspects of the influence of social media were used as a tool in the

present survey. The questionnaire was framed based on the previous researches on Social Media Network. The link containing the prepared form was sent to Dental professional’s mail ids. Data were analysed by multiple logistic regression analysis using SPSS software 20.

Results: The study sample included 49(65.3%) females and 26 (34.7%) males practicing in different sectors of Chandigarh. Majority of Dental professionals 44 (58.7%) used social media in their practice, and Google 39(52%) and Instagram 17 (22.7%) are the most commonly used social sites.

Conclusion: Social media had become a commonly used marketing strategy in the Dental practice especially for sharing and getting information as well as to attract new patients. The majority of Dental practitioners indicated that social media has improved their Dental practice and has become an indicator of successful practice.

Keywords: Social Media, Oral health, Dental professionals, websites, Technology.

Introduction

Engage, Enlighten, Encourage and especially... just be yourself! Social media is a community effort, everyone is an asset: Susan Cooper

The Internet has undergone rapid development, with significant impact on social life and on modes of communication. In recent years, the rapid development of Web 2.0 and mobile technologies has led to the emergence of an array of new forms of sources, such as online communities, social Q&A sites, and social networking sites, where consumers share information and construct knowledge.¹ Social networking sites (SNSs) are attracting a lot of attention from academic institutions. They promote knowledge sharing within interconnected groups and improve knowledge creation among members of these groups. Social networking site use is increasingly common among emerging Dental professionals as well as Dental students. Online social networking applications (e.g. Facebook, Flickr, Twitter and You tube) have become the fastest-growing mechanism to exchange professional information. Across India, there are 143 million users of social media of which 118 million are of urban areas and 25 million from rural India. Facebook emerged the leading social media website with 96% of urban users accessing it, followed by Google Plus (61%), Twitter (43%), and LinkedIn (24%). The largest segment of users are college going students (34%), followed by young men (27%) and school children (12%)².

Social media can be defined as online technologies and practices that people use to share opinions, experiences, and perspectives with each other, as a new way of communication that uses the internet to link people from all over the world whether by using computers or smartphones. Kaplan and Haenlein defined social media as “a group of Internet-based applications that are build on the ideological and technological foundations of Web 2.0,

and that allow the creation and exchange of user-generated content.” Social media are also referred to as “Web 2.0” or “social networking.”³ Many social media tools are available for Health Care Professionals, including social networking platforms, blogs, microblogs, wikis, and media-sharing sites. These tools can be used to improve or enhance professional networking and education, organizational promotion, patient care, patient education, and public health programs.⁴

Dentistry has shown an interest in using social media to communicate and market to its patients. Social media networks provide amazing marketing option for dentists who are searching for different ways to promote their individual practices. It is integral part of most of patient’s life, both younger and old age. This increasing popularity of social network inspires the growing businesses and professions including Dental profession, to consider dominance of power of social media in marketing of professions. Social media provides a professional connection by joining communities and making new connections with other expert Dental professionals. It can give new ideas and information regarding dentistry. From social media connections, one can know about recent innovations in field and can learn them. New social media connections can lead to speaking opportunities, invitations for conferences and symposium, finding sponsors and organizers for community events.⁵

Social media provide another line of communication with patients. It gives greater feeling of availability of dentist to patients. Patients probably do not visit their dentist, if they do not have any dental problem. But they probably do check Facebook, Instagram or online website of dentist, showing their strengthened relationship to Dentist. Therefore, attention should be given to the way patients react to your social media activity to maximize its benefits. Patients can even search various hospitals online,

see details of dentists, their qualification and where they trained and also can check reviews of natives of that place regarding that hospital. Nowadays, patients can consult Health Care Professionals from different parts of world through online consultation system. After creating an account online, patient can confirm dental appointment and make payments. Many studies have described the use of social media tools to enhance clinical students' understanding of communication, professionalism, and ethics.

Hence, the present study was based with an aim to assess the usage of social media and its influence on clinical practice among Dental Professionals and to establish the potential benefit of social media in improving Dental health practice.

Materials and Methods

The cross-sectional questionnaire-based study was conducted from May 2020 to July 2020, to assess the impact of social media network websites and its influences among Dental Professionals in Chandigarh city. Prior to start of study, a protocol and purpose of the present study was discussed with the participants and included those participants who were willing to participate in the study. A sample size of 150 Dental Professionals and Dental students in Chandigarh were selected and duration of study was three months.

Those participants who were willing to participate and filled the entire questionnaire were included in the study. Also, both male and female dentists were included in the study.

Questionnaires

A Google form which is an effective computerized questionnaire system was used to conduct the study. Total 16 questions were included (sociodemographic information's, living region, income level, definition of social media along with many examples of social media

platforms were gathered for all participants, questions related to the patients/participant's usage habits and perceptions of social media, usage for marketing/communication or attract new patients for dental practice as well as the perspectives toward the preferable and most helpful type of posts). Moreover, patients were asked about their use of social media to look after their dentist, factors influencing the selection of Dental practitioner and perceptions of media advertising by Dental Care Professionals.

The questions were entered in Google forms for conducting the online survey. Email ids of Dental Professionals and students working and studying in Chandigarh were collected. The online questionnaire was sent to the collected email ids. The subject of the email stated the title of the study. Along with the link directing to the Google survey site, the purpose of the study was clearly stated. The Dental Professionals were given full freedom whether to participate or leave the survey link provided. Data collection took 2 months. After the initial sending of the email, the participants were given a day to complete the form. The completed forms were collected back the next day. The main aim of the study was to find about the usage of social media among the Dental Professionals and Dental students and different kinds of social media that they used were asked and were enquired about the effect they had on them and from the results, further studies regarding the beneficial and harmful effects of social media were done.

Results

Out of 150 Dental Professionals, a total of 75 responded positively by participating in this study. In this way, the response rate was 50%. Rest of the Dental Professionals didn't complete the questionnaire and incomplete data were excluded from the survey.

Socio-demographic factors

The demographic details of the study participants are presented in Table 1, among which more than half of the Dental Professionals. The study sample included 49 (65.3%) females and 26(34.7%) males practicing in different sectors of Chandigarh. Majority of Dental Professionals 59 (79.7%) had more than 5 years of teaching as well as clinical experience. 93.3% of the study participants were in the age group of 25-35 years. Post graduate professionals were 50.7% and undergraduate professionals were 49.3% and both were engaged in academics and private practice.

Table 1: Socio-demographic factors of Dental Practitioners considered in the study

Socio-demographic factors		Dentists (n)	n (%)
Age	25-35 yrs.	70	93.3%
	36-45 yrs.	4	5.3%
	> 45 yrs.	1	1.3%
Gender	Male	26	34.7%
	Female	49	65.3%
Qualification	Undergraduate	37	49.3%
	Postgraduate	38	50.7%
Clinical/Teaching Experience	< 5 yrs.	59	79.7%
	5-10 yrs.	7	9.5%
	10-15 yrs.	7	8.1%
	> 15 yrs.	2	2.7%

Dentist’s awareness about using various Social Networking Sites (SNS) of social media

When asked about the usage of social media networking sites, more than half of Dental Professionals 58.7% agreed to use social media in their practice. When enquired about the commonly used social media platform, Google 52% followed by Instagram 22.7% were commonly used by majority of the Dental Professionals to attain information

for the clinical profession, as these are popular social sites comprising of educational and cases of surgical videos and photographs of complicated multidisciplinary cases. Also, 52% dentists agreed that they do not have their own website forum for personal dental practice and they used only common Social Network Sites to attain clinical information. (Table 2)

Table 2: Dentist’s awareness about using various Social Networking Sites of social media (N=150)

Questionnaire		Dentists	n %
1. Do you use social media in your profession?	Yes	44	58.7%
	No	7	9.3%
	Sometimes	24	32%
2. How often do you use social media in your Dental Profession?	Never	4	5.3%
	Occasionally	47	62.7%
	Frequently	24	32%
3. Which social media website do you mainly visit to attain information for your clinical profession?	Facebook	9	12%
	Twitter	1	1.3%
	Instagram	17	22.7%
	Google	39	52%
	Others (Linked-in)	9	12%
4. Do you have your own established online personal practice forums/Websites?	Yes	8	10.7%
	No	39	52%
	Not in present	28	37.3%

Dentist’s opinions/attitudes toward professionalism when using social media

Majority of Dental Professional’s exchange opinions/views regarding cases with colleagues and photographs and videos of Dental procedures share on social networking sites. In the study, 54.7% Dental

Professionals agreed that advancement of technology has made it easier to assess communication methods and knowledge seeking methods. Gaining knowledge was easier in the last decade due to the emergence of the Internet. Nowadays, there are a lot of webinars and online classes related to Dentistry on the internet. In the study, 62.7% Dental Professionals agreed that webinars provide good academics and clinical knowledge during the lockdown period for COVID 19. (Table 3)

Table 3: Dentists opinions/attitudes toward professionalism when using social media

Questionnaire		Dentists	n %
1. What, according to you is the most common reason for dentists using social media?	Connect/communicate with friends and family	15	20%
	Exchange opinions/views regarding cases with colleagues	41	54.7%
	Marketing and advertising	19	25.3%
2. Do you think the information provided on social media regarding the current situation of COVID 19 sufficient?	Yes	22	29.3%
	No	23	30.7%
	May be	30	40%
3. What is your opinion regarding the webinars	Quite helpful and provide good academic and clinical knowledge	47	62.7%
	Moderately helpful and provide only academic knowledge	20	26.7%

conducted by Dental Professionals on social media during the lockdown period for COVID 19?	Helpful and provide only textbook knowledge	3	4%
	Not helpful and just a waste of time	5	6.7%

Usefulness of social media as communication and marketing tool for Dentists in Clinical practice

Social media is a very good tool to market any profession. One can spread knowledge and expertise, and seek attention by posting pictures, videos and articles. 56% of Dental Professionals used social media for research and article information. Similarly, 34.7% Dental Professionals agreed that social media sites affect the decision making/diagnosis in treatment plan of the patients. Majority of participants, i.e., 39 (52%) favour the opinion that social media has potential to improve the quality of care and also recommend a trusted Medical/Dental website for more information to the patient. Only, nine (16%) participants trust the credibility of information/content on social media.

Table 4: Usefulness of social media as communication and marketing tool for dentists in clinical practice

Questionnaire		Dentists	n %
1. Does social media improve the quality of care delivered to patient?	Yes	39	52%
	No	6	8%
	May be	30	40%
2. Do you refer articles/research information	Yes	42	56%
	No	8	10.7%
	Someti	25	33.3%

regarding clinical practice from social media?	mes		
3. Do you think social media sites affect your decision making/diagnosis for your treatment plan?	Yes	26	34.7%
	No	14	18.7%
	Someti mes	35	46.7%
4. Do social media sites affect the relationship with your patient who has sought information from these sites?	Yes	26	34.7%
	No	19	25.7%
	Someti mes	30	40%
5. Would you favor allowing patients to assess their information through a website?	Yes	24	32%
	No	24	32%
	Someti mes	27	36%
6. Would you recommend a trusted Medical/Dental website for more information to the patient?	Yes	39	52%
	No	12	16%
	Someti mes	24	32%
7. Do you fully trust the credibility of information/content you see on social media?	Yes	12	16%
	No	18	24%
	Someti mes	45	60%

Discussion

Social media has spread widely around the globe and has become a connecting tool between dentists and patients.⁶

Currently, a lot of published literature has reported social media to play a significant role in health care related practice, and their influence in the field of Dentistry has also been observed.^{7,8,9} The present study evaluated the use of social media among Dental Practitioners and Dental students and to investigate the potential effects on marketing and communication strategies in Dental practice. However, reviewing the dental literature, there was a lack of published literature on the exact effect of social media on Dental Practitioners.

An attempt was made to include all Dental Practitioners, both specialists and general Dentists who are working in Dental Colleges and in Private Clinical Practice in different sectors of Chandigarh. An online questionnaire performa was distributed among them through email ids. In the present study, the dentists who were using social media within their Dental practice were 50%. This result was similar to the findings from USA dentists who were using social media (51%) within their practices.⁷ In the present study, Google 39(52%) and Instagram 17(22.7%) were the most commonly used platform among dentists while the least social media platforms were Facebook and Twitter. However, other studies reported that Facebook was the most commonly used platform. This could be attributed to the fact that Google and Instagram are the most commonly used platform among dentists. Instagram is very fast and easiest ways for a clinician to get attention of patients. It is primarily a mobile app which allows its users to capture photos or small videos and they can share these with others. In a study, 22% of Norwegian hospitals use Facebook, and 45% of Norwegian and Swedish hospitals are utilizing LinkedIn for health communication.¹⁰ The use of all types of social media is

not restricted in Chandigarh region and dentists can open their account or clinic accounts on all types of social media without limitation of access.

The results of the current study revealed that the majority of females 49 (65.3 %) used social media when compared to that of males 26 (34.7%). In a survey, Hanna Krasnova, et al. investigated how gender influences continuance intention to use social networking sites. They found that women are encouraged by the capability to sustain close ties and gain social information. And men are inspired by the skill to gain general information.¹¹ However, our results concur the study done in 2014, which reported that 79% of female patients use social media compared with 69% of male patients.¹² Also, we found that 93.3% of adults between 25-35 years of age, 5.3% of dentists between 36-45 years of age and 1.3% between ≥ 45 years of age use social media and that usage decreased steadily with age, which is in agreement with our findings. The respondents, however, may have a social media platform without actively viewing posts. Similarly, in the United States between 2006 and 2010, Lenhart and colleagues evaluated diverse types of Internet usage amongst young adults and teens. They found that the key swing in utilizing internet came at age 30 years.¹³ Research by Shivan et al attempted to identify why elderly people do not use social media. They found that the elderly did not have the desire to personally connect themselves actively in technology to make use of the internet or social media due to physical and psychological hindrances related to age.¹⁴ Rate of interest has an inverse relationship with age groups where it reaches 63% at the age range of 40 to 50 years, and 65% with the oldest age group (more than 50 years). The high interest rate reported with the youngest age groups could be a reflection of their high interest and involvement in new technologies and usually they are more active on social media.

Over the years, marketing has been practiced via traditional means of media, such as television, billboards, pamphlets, radio, newspaper, and phone book ads. Social media marketing has allowed businesses to have more interaction as well as communication power with consumers. In 2015, Nelson, *et al.* found that 76% of the orthodontists used social media in their practice and about 89% of the patients/ parents are using it in the search for a dental service.⁸ In contrast, we found that 52% of Dental Professionals agreed to improve the quality of care delivered to patient and social media acts as an advertisement and attracting tool to patients in Dental clinics. Moreover, engaging consumers on social media can build trusting relationships and give them an opportunity to read reviews from the general public. Nevertheless, successful practices usually have a more active presence on social media than any other marketing techniques. In 2012, K Hanry. *et al.* found that the most common reasons for using social media were marketing (91%) and communicating with existing or prospective patients (73%).⁷ In the present study, 25.3% Dental Professionals use social media for marketing and advertisements and 54.7% Dental Professionals exchange their opinions/views regarding cases and Dental procedures with colleagues and getting more options for making diagnosis and treatment plan of the patients. Similarly, in the present study, 34.7% Dental Practitioners agreed that social media affect the relationship with patients who have sought information from these sites. Social media is a bridge in between dentists and patients for communications and building relationships, sharing and getting information related to dentistry, as well as a marketing tool.

Professional websites are timeless and more trust worthy. This result was in contrast to a previous study conducted in North America in 2011, where they stated that “social

media, with its ability to target individual patients with information tailored to their unique interests, may eventually surpass the standard website (which is far more static) as the preferred method of marketing. This seems likely in much the same way that practice websites were not as powerful or prevalent 10 years ago as they are today".¹⁵ In the present study 52% dentists recommend a trusted Medical/Dental website for more information to the patient.

In today's scenario, during lockdown period for COVID 19 pandemic situation, webinars conducted by Dental professionals on social media are quite helpful and provide good academic and clinical knowledge to Dental students and Dental clinicians and 62.7% Dental Professionals agreed with this opinion. The result of present study strongly agreed on this fact that social media provides a large array of educational material, not only from more experienced clinicians, but from fellow trainees. It has become more easily accessible and can be utilized using a variety of media, such as tablets or smartphones. This can help to broaden horizons of trainees, as well as aid lecturers, teachers, and clinical supervisors in delivering information to trainees. It is also to be recognized that the majority of the educational content is available at no cost to the user, an important consideration to recent graduates qualifying with large student debts.¹⁶

The data presented in this study showed that social media was used by most of the Dental Professionals as well as Dental students and that social media may be an effective marketing tool in a Dental practice providing practitioners with information that may be useful in tailoring marketing strategies for the Dental office. And based on those previous observations, the hypothesis of this study had been accepted. Limitation of the study is the lack of literature and previous studies on this topic. This meant

that a validated survey tool did not previously exist, and had to be created to study this topic in this population. As the survey tool did not undergo formal psychometric validation, we cannot be sure of the validity and reliability of the findings.

Conclusion

Social media is being heavily used by Dental Professionals and Dental students, with Google and Instagram followed by Facebook networking site being the most commonly used on a regular basis. Social media is bringing a new dimension to the health care area by offering a medium to be used by patients, as well as to health care professionals. These networks are bringing health information to many more people than ever before. And they are broadening the access to those who may not easily retrieve health information via traditional methods. Further research should be conducted on a larger population in which Dental students are randomly selected from different colleges. Due to rapid growth in the utilization of social media applications by students and other members of society, Dental educators should consider exploring the use of social media as an adjunct in teaching. However, the potential benefits of the technology, such as increased student interaction, should be balanced with the potential disadvantages.

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