

Social Media Use in Dental Practice by Dental Practitioners of India: A Cross-sectional Survey

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ABSTRACT

Introduction: In recent years, social media use has been increased by Healthcare Professionals (HCPs) in their healthcare practice and it has emerged as a new platform for dissemination of knowledge, information exchange, and interpersonal communication.

Aim: This study was conducted with an aim to assess the use of social media in dental practice among dental practitioners in India.

Materials and Methods: This cross-sectional survey was conducted from October 2019 to March 2020 at Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital, Pune, Maharashtra, India by implementing a 15-item questionnaire to 36218 dental practitioners in India registered with Indian Dental Association (IDA) through an Electronic Survey Application. The questionnaire consisted of a section on demographic details of the participants which included their age, gender, type and number of years of practice. Second section consisted of items about the use of social media in dental practice and one open ended question on the topic. Data was analysed using descriptive statistics and comparisons were made using a Chi-square test. The Statistical Package for

Social Sciences (SPSS) version 20.0 was used for data analysis. Level of significance was kept at 5%.

Results: A total of 3180 dentists responded and returned the filled questionnaire. Social media was used by 1980 (62.3%) of dentists in their practice and the most commonly used platform was WhatsApp 1650 (83.3% of social media users). Most common reason for using social media in dental practice was for learning new things related to dentistry and staying updated 1470 (74.2%) followed by participation into discussion related to dentistry 1170 (59.1%). Dentists younger than 45 years (p -value=0.002), dentists with practice of less than 10 years (p -value <0.001), dentists with specialty practice (p -value <0.001) and dentists having practice website (p -value <0.001) were more likely to use social media in their dental practice.

Conclusion: Dental practitioners are actively incorporating social media in their practice and non users also showed interest in incorporating social media into their practice in near future albeit some of them were lacking in the knowledge of the same.

Keywords: Cell phone, Dental practice management, Digital technology, Health services, Marketing, Social marketing, Social medium

INTRODUCTION

Social media has brought tremendous revolution in each and every sector of the world, including healthcare sector and dentistry is no exception to it. Social media includes networking sites such as Facebook, Twitter, YouTube, WhatsApp, LinkedIn, etc. which provide a platform to train and educate Healthcare Professionals (HCPs), to develop a professional network, to help HCPs educate and communicate with patients and ultimately to improve the quality of care [1,2]. The rise of social media in healthcare has changed the way of interaction of healthcare professionals with their patients and to deliver different types of healthcare services. No doubt, dental practitioners might be benefiting with the use of social media in many ways but if not carefully used, the dangers these technologies pose to HCPs are formidable [1]. Certain limitations include poor quality and lack of reliability of information, HCP credentialing and licensure, ethical issues such as safety and security of patient information, etc [1,3]. Hence, this may be responsible for various challenges as HCPs including dental professionals have to maintain an established image, ethical principles and procedures [4].

The use of social media is prevalent across all ages and professions and is pervasive worldwide [5]. According to the statistics portal in India, as of January 2022, about 33.4% of Indian population uses social media [5]. India nearly having 2.7 lakh registered dentists, is one of the largest hubs for dental sciences in Asia [6]. Many studies have evaluated social media use among dentists across the globe

[7-9]; however, few studies have been conducted in India evaluating the use of social media in dental practice by Indian dentists [10,11]. Previous studies have reported a variable use of social media by dentists with percentages ranging from 63% to 90% for professional and personal use [10,11].

This shows that considerable number of dentists are using social media in their dental practice and its popularity among dental professional is increasing. However, many aspects of dental practice/practice management such as clinical experience of dentist, type of practice, patient record keeping system, reasons for not using social media, etc., have not been explored in previously conducted studies in India. Hence, this study aimed to explore the use of social media in dental practice among Indian dentists.

MATERIALS AND METHODS

This cross-sectional survey was conducted on a convenient sample of Indian Dental Association (IDA) members running a private dental clinic in India since atleast a year. Ethical clearance for the present study was obtained from Institutional Ethical Committee of a Bharati Vidyapeeth (Deemed to be University) Dental College and Hospital, Pune (ECR/328/Inst/MH/2016). A list of 36218 dental practitioners registered with Indian Dental Association was procured from IDA Head office located in Mumbai, Maharashtra, India. The study was conducted over a period of six months from October 2019 to March 2020.

Inclusion criteria: Dental practitioners running a private dental clinic in India since atleast one year and returned the fully filled questionnaire were included in the study.

Exclusion criteria: Dental practitioners with clinical practice of less than one year or submitted incomplete responses were excluded from the study.

Questionnaire

The questionnaire was adapted from a previously conducted study [7]. A questionnaire consisting of 16 items related to the use of social media in dental practice was developed by the authors by adapting the questions from previous studies [7,11] and adding few new questions and was subjected to a panel of four senior dental practitioners for review and content validation. Details of Content Validity Index (CVI): Scale-CVI/Ave (based on Item-CVI): 0.92; Scale-CVI/Ave (based on proportion relevance): 0.93; Scale-CVI/UA: 0.88]. Necessary modifications were done as per suggestions and one item related to type of specialty practice was removed from the questionnaire. Final questionnaire consisting of 15 items were subjected to assess internal consistency. The value of Cronbach's alpha coefficient (internal consistency reliability) was 0.82 which was considered as good. The questionnaire was then administered to another group of five dentists on two different occasions to check test-retest reliability. The kappa coefficient value obtained was 0.87 which shows strong agreement between the responses.

First section: Questionnaire was on demographic details of the participants which included their age, gender, type and number of years of practice.

Second section: Questionnaire consisted of items about the use of social media in dental practice and one open ended question on the topic.

An e-mail with a link to the survey questionnaire was sent to all the dental practitioners registered with IDA. Two weeks later, they were again reminded through an e-mail to complete the survey. One week after that, they were again sent final reminder mails to complete the survey. Responses to the survey were collected through an Online Survey Administration App (Google Forms).

STATISTICAL ANALYSIS

Data was anonymized and imported in statistical software Statistical Package for Social Sciences (SPSS) version 20.0 for data analysis. Level of significance was kept at 5%. Data was presented using descriptive statistics (frequency distribution) and comparisons were made using Chi-square test.

RESULTS

A total of 3319 responses were obtained, out of which 139 responses were excluded because of less than one year of practice experience and incompleteness of dental responses. Total, 3180 responses were included in the study. Majority of the respondents (85.8%) were less than 45 years of age. Out of 3180 respondents, 64.2% of the dentists were practicing for less than 10 years and only 23.6% of the respondents were specialty practitioners. Only 17.1% of the practices were having a website and 46.2% of the practices were still using traditional paper record system. Only 6.6% of the practices were using totally digital record system. Social media use in dental practice was reported by 62.3% of the respondents [Table/Fig-1].

The use of social media was significantly more among dentists who were less than 45 years of age than the dentists aged 45 years and above (p-value=0.002). Practices with completely digital (71.4%) or partially digital (74%) record system were most likely to use social media than practices that used traditional paper system (49%) (p-value <0.001). A total of 68.4% of the respondents who were

Question serial no.	Variables	Category	n (%)
1.	Age (in years)	20-24	30 (0.9)
		25-34	1590 (50)
		35-44	1110 (34.9)
		45-54	270 (8.5)
		55-64	120 (3.8)
2.	Gender	65 and above	60 (1.9)
		Male	1890 (59.4)
3.	Number of years of practice	Female	1290 (40.6)
		Less than 10 years	2040 (64.2)
4.	State in which the practice is located	More than 10 years	1140 (35.8)
		Maharashtra	632 (19.9)
		Gujarat	430 (13.5)
		Madhya Pradesh	121 (3.8)
		New Delhi	213 (6.7)
		Rajasthan	209 (6.6)
		Karnataka	483 (15.2)
		Tamil Nadu	331 (10.4)
		Kerala	208 (6.5)
		Telangana	119 (2.7)
		Andhra Pradesh	125 (3.9)
		Uttar Pradesh	106 (3.3)
		Bihar	78 (2.5)
5.	Type of practice	Jharkhand	53 (1.7)
		West Bengal	72 (2.3)
6.	Does your practice have a website?	General practice	2430 (76.4)
		Specialty practice	750 (23.6)
7.	Patient record system	Yes	570 (17.1)
		No	2610 (82.9)
		Traditional patient paper records	1470 (46.2)
8.	Use of social media in dental practice	Partly digital, partly paper record system	1500 (47.2)
		Completely digital, paperless record system	210 (6.6)
8.	Use of social media in dental practice	Yes	1980 (62.3)
		No	1200 (37.7)

[Table/Fig-1]: Demographic Details, details of social media use and practice management (n=3180).

having their practice website were using social media in their practice as compared to 60.9% of those who were not having their practice website (p-value <0.001). Specialty practitioners (68%) were more likely to use social media than general practitioners (60.5%) (p-value <0.001). Those who were practicing for less than 10 years (69.1%) were more likely to use social media than those practicing for more than 10 years (50%) (p-value <0.001) [Table/Fig-2].

Variables	Category	Social media use in dental practice n (%)		p-value
		Yes n (%)	No n (%)	
Age	Less than 45 years (n=2730)	1860 (68.1)	870 (31.9)	0.002*
	45 years or more (n=450)	120 (26.7)	330 (73.3)	
Number of years of practice	10 years or less (n=2040)	1410 (69.1)	630 (30.9)	<0.001*
	More than 10 years (n=1140)	570 (50)	570 (50)	
Type of dental practice	General (n=2430)	1470 (60.5)	960 (39.5)	<0.001*
	Specialty (n=750)	510 (68)	240 (32)	
Practice website	Yes (n=570)	390 (68.4)	180 (31.6)	<0.001*
	No (n=2610)	1590 (60.9)	1020 (39.1)	

Patient record system	Traditional paper records (n=1470)	720 (49)	750 (51)	<0.001*
	Partly paper, partly digital (n=1500)	1110 (74)	390 (26)	
	Completely digital (n=210)	150 (71.4)	60 (28.6)	

[Table/Fig-2]: Comparison of social media use in dental practice/practice management. Chi-square test; *indicates significant difference at $p \leq 0.05$

Of the 62.3% (n=1980) of practices who reported use of social media within their practice, WhatsApp (n=1650; 83.3%) was the most popular social media site followed by Facebook (n=1500; 75.8%) and YouTube and Instagram (n=480; 24.2% each). Regarding use of social media for personal use, WhatsApp (n=2820; 88.7%) was the most commonly used social media application followed by Facebook (n=2370; 74.5%), YouTube (n=1080; 34.0%) and Instagram (n=870; 27.4%) [Table/Fig-3].

Social media application	Professional use n (%)	Personal use n (%)
Facebook	1500 (75.8)	2370 (74.5)
WhatsApp	1650 (83.3)	2820 (88.7)
YouTube	480 (24.2)	1080 (34.0)
Instagram	480 (24.2)	870 (27.4)
Twitter	120 (6.1)	300 (9.4)
LinkedIn	150 (7.6)	0
Snapchat	0 (0)	150 (4.7)
Others (Newspaper, Google, Practo)	150 (7.6)	0

[Table/Fig-3]: Perspective of social media use among dental practitioners. (Responses for Ques. No. 10 and 13). The respondent could select more than one option

The most common reasons for using social media were learning new things related to dental practice (74.2%), participating in discussions related to dentistry (59.1%), marketing (57.6%) and to have better online presence (48.5%). Some respondents also indicated that they use social media to communicate with existing patients (47%) [Table/Fig-4]. Some of the reasons for not using social media listed were not believing in advertising and promotions (32.5%), lack of knowledge (25%) and time constraint (25%) [Table/Fig-4].

Social media use	Reason	n (%)
Yes [n=1980 (62.3%)]	I use social media as a marketing tool for my practice	1140 (57.6)
	I use social media for communication with existing patients	930 (47.0)
	I use social media to communicate with prospective patients	450 (22.7)
	I use social media to learn new things related to dental practice	1470 (74.2)
	I use social media to participate in discussions related to dentistry	1170 (59.1)
	I use social media to have better digital/online presence	960 (48.5)
No [n=1200 (37.7%)]	Lack of knowledge	300 (25.0)
	Time constraint	300 (25.0)
	Security concerns	120 (10.0)
	No potential of social media in dental practice	90 (7.5)
	Do not believe in advertising and promotions	390 (32.5)

[Table/Fig-4]: Details of reasons of social media use in dental practice. (Data related to Question no. 9 and 12). Respondent could select more than one option

Regarding the success of social media in dental practice, 61.2% (n=1230) reported it to be successful, while 35.8% (n=720) were unsure about the success and 3% (n=60) felt it unsuccessful. Around 60% of respondents (n=720) indicated that they were planning to incorporate social media in their practice in near future

and 40% of the respondents (n=480) had no plan to use or had no interest in incorporating social media into their practice. Among the respondent that showed positive attitude towards social media use in future, 35% respondent (n=420) reported that they are planning to incorporate social media into their practice in the future and 25% respondents (n=300) reported that they were thinking about incorporating social media into my practice, but they did not know how to incorporate it.

The last question on the survey was an open ended question asking participant's opinion about use of social media in dental practice. Some of the comments are presented in [Table/Fig-5]. Most of the positive comments were related to upgradation in knowledge by the use of social media, reaching a larger number of people and marketing purpose.

Category	Comment
Positive	Social media should be used as a tool for evidence based dental practice and to improve clinical performance.
Negative	Social media should not be used as a tool for educating patients; rather patients should be educated personally with one to one interaction and live demonstrations.
	Social media can be used by patients or others to defame dentists.
	I believe social media is not a trustworthy platform for healthcare since the information posted lacks reliability and quality.
Ethical concern	Advertisements of practice in any form is not permitted ethically.
Time related	It is a waste of time and highly detrimental to our health.
Unsure of benefit	I am not clear whether the use of social media in dental practice will benefit in terms of increasing patients or improving practice since practice improves by upgrading our knowledge by attending various workshops or programs.

[Table/Fig-5]: Opinions on social media use in dental practice. (Regarding responses and comments of practitioners to Question No. 15).

DISCUSSION

In the recent years, social media has become omnipresent. It has also penetrated dental practice to a larger extent. The use of the internet, especially social media in some or other form has almost become a standard for a proper functioning of dental practice. Dentists are using social media not only for upgradation of their knowledge and uplifting the dental practice and quality of care, but also to publicise their practice and communicate with their patients [7-9]. Given the increasing popularity of various social media applications, the current study was planned with an aim to obtain a snapshot about the use of social media by Indian dental practitioners within their practice.

The results of the study clearly suggest that dental practitioners are engaging social media (62.3%) in their clinical practice. Usage of social media into dental practice is high among Indian dentists than dentists of United States of America (USA) (51%) and Riyadh, Saudi Arabia (52%) [7,9]. Another study in Saudi Arabia reported that 41% dentist use social media [12]. The results of the present study are in accordance with previous Indian study which showed 64.8% of dental faculty using social media in their profession [11]. WhatsApp was the most commonly reported social media platform among Indian dentists in the present study. This could be attributed to the fact that WhatsApp is the most commonly used social media messenger application in India as reported which facilitates the dentists to target a higher number of people [13]. A study conducted by Al-Khalifa KS et al., in Saudi Arabia also reported WhatsApp as the most commonly reported social media tool used by the dentists (96.5% of dentists aged <35 years and 94.8% of the dentists aged ≥ 35 years) [14]; however other studies conducted mentioned Facebook being the most commonly used platform [7,8,11,15,16]. In two studies conducted in Saudi Arabia, dentists used Instagram most commonly for dental practice promotion, and also regarded as the most powerful platform [12,17]. A survey on

dental undergraduate students of Malaysia and Finland revealed that more than 90% and 70% students use social media platforms WhatsApp and Instagram respectively [18].

In the present study, it was found that younger age dental practitioners (less than 45 years of age) were engaging social media more into their practice more than their elder counterparts which is similar to a study conducted on United States (US) dental practitioners and Malaysian dental practitioners [7, 19]. This can be attributed to the fact that young generation is more tech savvy and more engaged in social media activities [20]. Learning new things related to dentistry (74.2%) and participating in dental discussions (59.1%) on social media platforms were the main reasons for using social media followed by social media as a marketing tool for dental practice (57.6%). A study conducted in Riyadh reported 43% of the dentists using social media for education and 62% of the dentists using social media as a marketing tool [9]. Two studies conducted in Saudi Arabia reported that 42% and 41% of dentists used social media platforms for education purpose [12, 17].

However, the most common reason for using social media in dental practice reported by US dental practitioners was marketing (91%) and communicating with existing or prospective patients (73%) [7]. Since most of the respondents in the present study were from the younger age group, who are more eager for updating their knowledge and quality of care using social media, this might explain the difference from the study conducted in US where age groups were older. The results of the success of social media in dental practice in the present study differ from a previous study conducted in US where only 38% felt it was successful and around 55% were not sure about the success [7]. The main reasons for not opting to social media in dental practice in the present study was lack of belief in advertising and promotion followed by time constraint and lack of knowledge. These results are similar to a study conducted on dentists in South Africa [15].

In a study conducted in South Africa, the main reason for not opting for social media marketing was time constraint (n=170; 65.4%), lack of knowledge (n=140; 53.6%) and security concerns (n=124; 47.9%) [15]. In contrast to this observation, 89.4% dentists in another study conducted in Saudi Arabia reported that they promote through social media to attract patients [21]. Another study conducted in Saudi Arabia reported that education was the main purpose among dentists for utilization of social media [17]. A study conducted among Orthodontists in USA reported no time as the main reason (63%) followed by privacy concerns (43%) [16]. In a study conducted in Malaysia, the main reason for not using social media marketing in dental practice was time constraint (n=39; 24.9%) and lack of knowledge (n=33; 20.9%) [19].

Along with uncertainty about use of social media comes the uncertainty of security and ethical perspective of social media use which is evident from few of the comments on social media. A study among dentists of Saudi Arabia revealed a shocking fact that more than 86% of the participants posted their cases containing patients' photographs without the patients' verbal or written informed consent [12]. This calls for the education among the professionals about the use of social media in dental practice to address concerns about appropriate use both ethically and professionally without tarnishing one's image [7]. The content posted on social media should be assessed for credibility before being implemented into practice. Social media sites should be used wisely and prudently that will result in professional development and advancement as well as promote individual and public health. It is the responsibility of the professional organisations and publications to help set the standards and criteria for the use of social media in our practice [7]. Such guidelines on the use of social media in healthcare have been issued by various organisations in US [1].

Limitation(s)

Few of the inherent limitations of the study were low response rate (8.8%) and electronic nature of the survey. As the response rate was low, general demographics of the respondents were similar to the demographics of dentists in India. The survey was conducted through an electronic survey platform and those who routinely use social media in their practice may be more prone to respond to an electronic survey distributed through online mail system than those who do not use social media.

CONCLUSION(S)

It can be seen that social media is used in dental practice in India to varying degrees depending upon various factors related to dental practice. It is mostly utilised by younger practitioners mainly for learning purpose. Many of the non users indicated their willingness to use social media in the near future which shows that the use of social media in dentistry in India will continue to grow in the coming years. Social media, if used wisely can prove to be a boon for healthcare practitioners and can be a key tool in enhancing education.

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