

Knowledge, Attitude, and Practice toward Social Media Use in Dental Education

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Abstract

Introduction: The use of social media has been a revolutionary way of communication, since the past decade. Considering its high level of usage among the younger individuals, social media may provide a unique method of learning for dental students. However, the perception of dental educators on the usage of social media and networking sites is unknown. Hence, this study was conducted to assess the knowledge, attitude, and practice of dental faculty and residents toward social media use in dental education. **Materials and Methods:** This cross-sectional study was conducted in Government Dental College and Hospital, Mumbai, from November 2019 to December 2019. The questionnaire was prepared and validated before conducting the study. All the faculty members and the residents of the college were included in the study. The questionnaire was based on three dimensions (knowledge, attitude, and practice) and assessed the views of participants on the social media usage. **Results:** A total of 65 participants were included in the study, where 32 were faculty members and 33 were residents. The mean age of the participants was 31.52 ± 6.589 . Out of the total, 26 (40%) participants were male and 39 (60%) were female. The mean experience of the study participants was 4.71 ± 5.997 . The responses were compared between residents and faculty and the responses were similar for most knowledge, attitude, and practice question. The residents were keener on looking forward to developing social media as a primary aid in dental education compared to the faculty ($P = 0.029$). **Conclusion:** Due to ease of use and widespread applicability, social media now has a great potential to deliver educational content. This study demonstrates the positive responses of the faculty towards social media usage and further enhances traditional education.

Keywords: Attitude, dental education, knowledge, practice, social media

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INTRODUCTION

Technology has revolutionized dental education.^[1] Social media, including blogs, Instagram, Twitter, wikis, Facebook, Pinterest, YouTube, etc., provides an opportunity for educators to engage undergraduate students who are the members of the millennial generation in active learning while enhancing knowledge and fostering communication.^[2] Students can now access vast quantities of information from a variety of sources at their own convenience and from virtually any location.^[1] Social media can help enrich the dental students' learning experience by incorporating, photos, videos, lecture series, etc., in their learning routine along with socializing, with their friends colleagues, or seniors.^[1]

Social networking can serve as an innovative, engaging approach by facilitating and expanding discussion beyond the traditional classroom, promoting critical thinking, providing

collaboration among students and teachers, and assisting with patient education.^[2,3] According to Crook *et al.*, the web-based communities for learning has four key advantages: (1) it enables collaboration among different users, (2) it allows users to create personal content through different forms of media, (3) it permits users to publish individual works, and (4) it creates new approaches to research.^[4]

Many dental educators do not feel technologically proficient enough and are concerned with the amount of time needed to become so. Moreover, others fear that students will no longer attend their lectures. However, a recent study found

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that 90% of students said that adding e-learning methods did not have any effect on whether or not they attended lectures.^[5] Moreover, incorporating these technologies could increase student engagement.^[1] Despite the rise of social media usage by dental students, there is a significant deficiency of evidence supporting its usage by the teaching faculty. Thus, the aim of this study was to assess the dental lecturers' knowledge, attitude, and practice toward using the social media in dental education, which would allow us to work on evidence-based ideologies and implement regulations and instructions according to the same.

MATERIALS AND METHODS

This cross-sectional study was conducted to determine the knowledge, attitude, and practice of dental faculty and residents toward social media usage in the dental education. This cross-sectional study was conducted in the Government Dental College and Hospital, Mumbai, from November 2019 to December 2019. The convenience sampling technique was used. The study protocol was reviewed and approved by the Institutional Review Board, Government Dental College and Hospital, Mumbai.

All the faculty members and the residents (Bonded service for 1-year as an Assistant Professor immediately after completion of postgraduation from the same department) of the college who gave their consent were included in the study. The participants who were absent at the time of data collection were approached for the second time. If they were not present for the second time, the participants were excluded from the study. The data collection was done using a structured pro forma.

The questionnaire was prepared and validated before conducting the study. The questionnaire was based on the three dimensions (knowledge, attitude, and practice) and assessed the views of participants on the social media usage. The questionnaire consisted of demographic items (such as age, sex, degree, and years of teaching experience). The questionnaire consisted of 22 items, where 14 items evaluated the knowledge and attitudes of participants toward using the social media in dental education and 8 evaluated the practice. The questionnaire was based on 5-point Likert scale from 1 to 5 depending on the degree of agreement. 1–5 include; no agreement, slightly agree, moderately agree, strongly agree, and completely. For those questions which were negative, this scale was used inversely.

Statistical analysis

Descriptive analysis was carried out by the mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. Quantitative variables were assessed for compliance with normal distribution, by visual inspection of histograms and normality Q-Q plots. Kolmogorov–Smirnov test was used to check the normality of the data. The study group was divided into two groups (residents vs. faculty). Independent sample-*t* test was used to compare the two groups.

The Statistical software IBM SPSS statistics 20.0 (IBM Corporation, Armonk, NY, USA) was used for the analyses of the data and Microsoft word and Excel were used to generate graphs, tables etc.^[6]

RESULTS

A total of 65 participants were included in the study, where 32 were faculty members and 33 were residents. The demographic characteristics are mentioned in Table 1. The overall response of knowledge, attitude, and practice was computed, and the responses are tabulated in Table 2. The responses were compared between residents and faculty and the responses were similar for most knowledge, attitude, and practice question ($P > 0.05$). The residents were keener on looking forward to developing social media as a primary aid in dental education compared to the faculty ($P = 0.029$) [Table 3]. There was no difference among the residents and faculty when responses to all the 14 questions related to knowledge and attitude were summed up. Similarly, responses to all the 8 practice questions were summed up, and no statistically significant difference was observed among the residents and faculty [Table 4].

DISCUSSION

Social media, by contrast, have been “a category of online media where people are talking, participating, sharing, networking, and bookmarking online. Most social media services encourage discussion, feedback, voting, comments, and sharing of information from all interested parties. It is more of a two-way conversation, rather than a one-way broadcast like traditional media.”^[7] Social media have been classified into five groups: (1) collaborative projects such as Wikipedia, (2) blogs or microblogs such as Twitter, (3) content communities such as YouTube, (4) social networking sites such as Facebook, and (5) virtual gaming or social worlds such as second life.^[6,8]

Table 1: Demographic characteristics of the study participants (n=65)

Variables	Sub-groups	n (%)
Gender	Male	26 (40)
	Female	39 (60)
Post	Faculty	32 (49.2)
	Resident	33 (50.8)
Education	MDS	65 (100)
Specialization	Endodontics	10 (15.4)
	Oral medicine	12 (18.5)
	Oral pathology	9 (13.8)
	Orthodontics	8 (12.3)
	Oral surgery	2 (3.1)
	Periodontics	5 (7.7)
	Public health dentistry	3 (4.6)
	Prosthodontics	16 (24.6)
Age (mean±SD)		31.52±6.589
Years of experience (mean±SD)		4.71±5.997

SD=Standard deviation

Table 2: Descriptive statistics (n=65)

Questions on knowledge and attitude						
Serial number	Questions number	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	The use of social media, is vital for dental education	1 (1.5)	11 (16.9)	6 (9.2)	39 (60)	8 (12.3)
2	I expect some perks on account of using social media for dental education	5 (7.7)	11 (16.9)	18 (27.7)	26 (40)	5 (7.7)
3	Social media as a resource is vital to meet for ever changing education needs	2 (3.1)	8 (12.3)	11 (16.9)	37 (5.9)	7 (10.8)
4	It is important to learn to use of social media for use in dental education	1 (1.5)	7 (10.8)	10 (15.4)	31 (47.7)	16 (24.6)
5	I expect institution to recognize the special efforts taken to use social media for dental education	1 (1.5)	4 (6.2)	18 (27.7)	35 (53.8)	7 (10.8)
6	It is stressful to use social media for dental education purposes	2 (3.1)	21 (32.3)	25 (38.5)	12 (18.5)	5 (7.7)
7	Social media is useful in discussion of scope of dentistry with students and dentist	3 (4.6)	7 (10.8)	6 (9.2)	43 (66.2)	6 (9.2)
8	Pros of social media for dental education purposes outweigh the cons	2 (3.1)	16 (24.6)	19 (29.2)	26 (40)	2 (3.1)
9	The essence of learning from social media is comparable or even better as compared to face to face in dental education	9 (13.8)	22 (33.8)	19 (29.2)	14 (21.5)	1 (1.5)
10	It is/would be possible and beneficial to integrate social media with my work style in dental education	1 (1.5)	6 (9.2)	19 (29.2)	36 (55.4)	3 (4.6)
11	Use of social media in dental education adds on to my self-image	2 (3.1)	8 (12.3)	18 (27.7)	35 (53.8)	2 (3.1)
12	By use of social media in dental education, students can integrate leaning along with socializing among peers, colleagues and seniors via groups/communities/ pages	2 (3.1)	5 (7.7)	9 (13.8)	44 (67.7)	5 (7.7)
13	More proactive involvement of students via social media has a positive impact on their perspective towards learning	0 (0)	8 (12.3)	20 (30.8)	35 (53.8)	2 (3.1)
14	Dentistry being a performing art along with science, use of social media in development of clinical skills should be limited	2 (3.1)	21 (32.3)	7 (10.8)	29 (44.6)	6 (9.2)
Questions on practice						
Serial number	Questions no	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I have a social media account	3 (4.6)	5 (7.7)	3 (4.6)	44 (67.7)	10 (15.4)
2	I have contacts with my students privately	7 (10.8)	15 (23.1)	16 (24.6)	19 (29.2)	8 (12.3)
3	I am an active member of educational group/ community/page on social media	7 (10.8)	16 (24.6)	8 (12.3)	29 (44.6)	5 (7.7)
4	I use social media for displaying my clinical cases for educational purposes	10 (15.4)	20 (30.8)	20 (30.8)	14 (21.5)	1 (1.5)
5	I use creative forms, such as audio visual, video animations, etc., on social media for dental education	6 (9.2)	21 (32.3)	15 (23.1)	18 (27.7)	5 (7.7)
6	I use interactive forms of media available on social media with my students for dental education	5 (7.7)	25 (38.5)	15 (23.1)	17 (26.2)	3 (4.6)
7	I get equal/more students' participation through teaching dental education via social media as compared to dental education face to face	5 (7.7)	19 (29.2)	31 (47.7)	8 (12.3)	2 (3.1)
8	I recognize the scope of social media in dental education and look forward to developing it as a primary aid in my syllabus	6 (9.2)	14 (21.5)	17 (26.2)	25 (38.5)	3 (4.6)

The social media nowadays have a major impact on the personal and professional relationships. The major benefits of using social media for health communication are convenience, user-friendliness, and broadening access of health information to different population groups, students, and patients regardless of age and ethnicity as compared with traditional communication methods. Social media allows users to have peer-to-peer discussions in a way that traditional Web sites do not facilitate. Social media, especially in medical education, acts as a bridge between health professionals, lay public, and patients.^[9] Networking with large population, keeping up with the latest dental technologies and availability of evidence-based

resources are other virtues associated with social media usage.^[8] Dental educators are charged with making students competent in professionalism and ethics.^[10] We lack knowledge about the educators perception of social media usage among the students. Therefore, the current research aimed to address the dental educator's knowledge, attitude, and practice related to the social media usage by the dental students.

In the present study, a total of 65 participants (32 faculty and 33 residents) were included in the study. Most participants believed that social media is vital for dental education, especially in ever changing education needs. However,

Table 3: Comparison of the responses among professors and residents using unpaired t-test

Knowledge	Post	n	Mean±SD	t	P
Q1	Professor	32	3.66±1.004	0.083	0.934
	Resident	33	3.64±0.929		
Q2	Professor	32	3.19±1.281	0.318	0.751
	Resident	33	3.27±0.839		
Q3	Professor	32	3.53±1.107	0.572	0.569
	Resident	33	3.67±0.777		
Q4	Professor	32	3.72±1.143	0.909	0.367
	Resident	33	3.94±0.788		
Q5	Professor	32	3.72±0.851	0.554	0.582
	Resident	33	3.61±0.788		
Q6	Professor	32	3.03±1.031	0.627	0.533
	Resident	33	2.88±0.927		
Q7	Professor	32	3.66±0.827	0.083	0.934
	Resident	33	3.64±1.084		
Q8	Professor	32	3.00±0.916	1.308	0.196
	Resident	33	3.30±0.951		
Q9	Professor	32	2.50±0.880	1.014	0.315
	Resident	33	2.76±1.146		
Q10	Professor	32	3.56±0.878	0.392	0.696
	Resident	33	3.48±0.712		
Q11	Professor	32	3.25±0.984	1.536	0.130
	Resident	33	3.58±0.708		
Q12	Professor	32	3.66±0.787	0.336	0.738
	Resident	33	3.73±0.911		
Q13	Professor	32	3.31±0.738	1.764	0.083
	Resident	33	3.64±0.742		
Q14	Professor	32	3.28±1.170	0.250	0.803
	Resident	33	3.21±1.053		
Practices	Post	n	Mean±SD	t	P
Q1	Professor	32	3.88±0.942	0.495	0.622
	Resident	33	3.76±0.969		
Q2	Professor	32	3.06±1.413	0.194	0.847
	Resident	33	3.12±0.992		
Q3	Professor	32	3.13±1.385	0.089	0.930
	Resident	33	3.15±1.004		
Q4	Professor	32	2.69±1.203	0.431	0.668
	Resident	33	2.58±0.867		
Q5	Professor	32	2.94±1.294	0.100	0.921
	Resident	33	2.91±0.980		
Q6	Professor	32	2.81±1.148	0.021	0.983
	Resident	33	2.82±0.983		
Q7	Professor	32	2.66±0.937	0.732	0.467
	Resident	33	2.82±0.846		
Q8	Professor	32	2.78±1.157	2.241	0.029*
	Resident	33	3.36±0.929		

*P<0.05: Significant; **P<0.001: Highly significant. SD=Standard deviation

most believed this to be stressful and the traditional dental education was best. Most were in favor of integration of the social media into dental education. Most participants had a social media account. Most participants would not use their social media for the educational purposes. However, the participants recognized the importance of social media

Table 4: Comparison of the responses among professors and residents using the unpaired t-test

Group	Post	n	Mean±SD	t	P
Knowledge and attitude	Professor	32	47.06±8.420	0.672	0.504
	Resident	33	48.33±6.758		
Practices	Professor	32	23.94±6.895	0.390	0.698
	Resident	33	24.52±4.912		

SD=Standard deviation

usage and looked forward to developing it in their practice. The responses were compared between residents and faculty and the responses were similar for most knowledge, attitude, and practice question ($P > 0.05$). The residents were keener on looking forward to developing social media as a primary aid in dental education compared to the faculty ($P = 0.029$). The responses varied in our study. However, most responses were positive for social media usage.

DeBate *et al.*^[11] conducted a qualitative study on the dental and dental hygiene faculty members and the analysis of the data revealed few advantages such as increased student accessibility, student convenience, and ability to provide added depth to course. Whereas, few adoption barriers such as low perceived relative advantage to faculty members, low compatibility with current curriculum, high perceived time commitment, and complexity of e-course development was perceived by the faculty. Javed and Bhatti.^[9] in their study determined that a majority of participants agreed that social media plays an effective role in academic performance and can be used for discussing issues related to health, patient care, and treatment. Many studies in the past have seen the positive response of dental students on social media usage.^[12-14] Bahner *et al.*^[15] conducted a pilot project which demonstrated the potential of social media to both supplement and enhance traditional educational methods in medicine. However, the perception and usage of media concerning faculty members are very limited. Arnett *et al.*^[16] cited the most frequent barriers to the use of social media were time (48%) and privacy concerns (48%). In another instance, the benefits and challenges encountered with using YouTube in a nursing course were reported by Green and Hope.^[17] Their goal was for nursing students to work collaboratively to create short patient health education videos and display the videos on YouTube, but faculty members cited several challenges including privacy.

This study has several limitations. The convenience sampling technique was used, which was not representative of the population. Furthermore, our study population was collected from single center, with limited sample size which reduced the generalizability of the study. Moreover, the observational nature of the study does not establish a causal relationship between the variables. Despite the above limitations, it is the first study in India to assess the educator's knowledge, attitudes, and practice regarding the use of social media among dental students. Large multicentric, randomized-controlled

trials will be required to establish a relationship of dental education and social media usage.

CONCLUSION

Social media in dental education can be valued in many ways. The social media and networking have helped students as well as dental faculties in expanding the knowledge, speeding learning process, and adopt evidence-based practice. Our study showed the positive attitude by faculties and residents on the social media usage. Social media can be integrated into the traditional dental education with proper guidelines in future. However, more research would be required on the subject.

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Conflicts of interest

There are no conflicts of interest.

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