

The Role of Social Media in Supporting Learning and Clinical Exposure: Perceptions of Dental Students

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Abstract:

Social media (SM) has become a widely used tool among dental students for communication and educational purposes. Its growing use raises questions about its impact on learning behaviors and academic performance. **Aim:** explore the extent of social media use among dental students and to examine their perceptions of its role in supporting learning processes and facilitating clinical exposure of fourth-year and intern dental students at Zawia University, Libya. **Materials and Methods:** A descriptive cross-sectional study was conducted using a validated self-administered questionnaire distributed to 105 dental students. Data were analyzed using frequency and percentage distributions. **Results:** All participants reported daily SM use. Facebook and YouTube were the most accessed platforms. Most students agreed that SM enhanced access to learning materials (97.1%) and supported independent learning (85.3%). The Internet was the preferred source for dental information (57.1%), mainly due to ease of access and updated content. However, a considerable proportion used SM during lectures and clinical sessions, and 37.1% had difficulty limiting SM use during examinations. Additionally, 57 students reported that SM negatively affected their academic performance. **Conclusion:** Social media serves as a beneficial supplementary tool for dental education, but excessive use may negatively influence academic performance. Structured guidelines promoting responsible SM use are recommended.

Keywords: social media, dental education, operative dentistry, dental student.

Introduction:

Over the past decade, social media platforms have evolved into essential components of daily life, particularly among university students. These platforms are no longer limited to social interaction but increasingly influence learning behaviors, communication patterns, and academic engagement. Platforms such as Facebook, Twitter, Instagram, and TikTok have become integral to modern culture and every aspect of life. Excessive use of these tools has led to debate over whether or not it has changed the very shape and structure of students' social behavior and academic practices, and has thus caused leading educators to redefine their understanding of interpersonal communication and study dynamics [1]. Advancements in digital technology have accelerated the adoption of social media across various professional and educational domains. In dentistry, these platforms are increasingly utilized for information exchange, professional networking, and patient-related communication. People today increasingly rely on social media (SM) to explore available services, including dental care, by accessing shared information, patient feedback, and online reviews. Consequently, visible and effective communication through social media has become an essential component

of dental clinic operations [2]. In academics, colleges, and schools, social media is emerging as an effective medium for educational purposes. With its advanced technology, the Internet is easily accessible to different areas of the world. It is easily accessible throughout universities, colleges, campuses, libraries, and hostels. Recently, social media has become the biggest library for students [3]. Dental students use social media tools for many purposes, such as access to information, group discussion, resource sharing, and entertainment [4]. Findings from the present study indicate that social media use among dental students exerts both supportive and disruptive influences on learning, a pattern that has also been observed in previous investigations. They can provide flexibility in learning, stimulate innovative ideas, and increase interpersonal relationships among students and instructors. These tools, however, can have negative impacts on students as they might distract their attention from the learning process, reduce their physical and social interaction, and be potentially addictive [1]. Knowledge of internet usage among undergraduate dental students becomes all the more necessary to keep pace with advancing technology and to enrich themselves about the progress in dental science [5]. However, guidelines for using SM among dental students

are still lacking in many areas worldwide, particularly in the Middle East and North Africa, where the use of SM is becoming increasingly popular [6]. Libya is an Arab Spring country where the use of SM played a pivotal role in the rise in 2011, and since then, the use of SM platforms has increased. Anecdotal evidence suggests that Libyan dental students rely heavily on SM platforms to communicate with colleagues and patients, access and exchange study materials, and openly discuss their clinical work. In recent years, online teaching has been introduced in many Libyan dental academic institutions in response to recurrent armed conflicts and COVID-19 [7].

So, this study aimed to explore the extent of social media use among dental students and to examine their perceptions of its role in supporting learning processes and facilitating clinical exposure of fourth-year and intern dental students at Zawia University, Libya.

Materials and Methods:

Study Design and Setting

A descriptive cross-sectional study was conducted among undergraduate dental students at the Faculty of Dentistry, Zawia University, Libya. The study was carried out over a six-month period, from April to September 2025.

Ethical Considerations

Ethical approval was obtained from the Ethics Committee of the Operative and Endodontics department, Faculty of Dentistry, Zawia University, prior to data collection. All participants were informed about the purpose of the study, and written informed consent was obtained. Participation was voluntary, and anonymity and confidentiality were strictly maintained throughout the study. No personal identifiers were collected.

Study Population and Sample Size

The study population consisted of fourth-year dental students and dental interns enrolled at the Faculty of Dentistry, Zawia University. A total of 105 students agreed to participate and completed the questionnaire. All eligible students present during the data collection period were invited to participate.

Data Collection Instrument

Data were collected using a self-administered structured questionnaire adapted from a previously validated instrument used in Saudi Arabia (Rajeh et al., 2020)^[8]. To ensure the suitability and clarity of the questionnaire for the local context, a pilot study was conducted among 10 dental students who were not included in the final analysis. Based on feedback from the pilot study, minor modifications were made to improve clarity and relevance.

The final questionnaire consisted of three sections:

1. **Sociodemographic characteristics**, including gender and academic level.
2. **Patterns of social media use**, including the presence of social media accounts, types of platforms used, frequency and duration of use, and reasons for using social media.
3. **Perceptions of social media in dental education**, focusing on its benefits, educational applications in operative dentistry, and perceived negative impacts on academic performance.

Data Collection Procedure

Printed copies of the questionnaire were distributed to students in their respective operative dentistry classrooms after explaining the objectives of the study. Participants were given approximately 10 minutes to complete the questionnaire. Data collection was conducted under the supervision of calibrated investigators to ensure consistency and to address any queries.

Data Analysis

Data were coded and entered into the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics were used to analyze the data, and results were presented as frequencies and percentages.

Results:

Demographic Characteristics

A total of 105 students responded to the questionnaire and participated in the current study. The demographic data of the participants are presented in **Table 1**. More than half of the participants were females (71.4%, n = 75), with respect to academic level, fourth-year students accounted for (62.9%, n = 66), whereas interns represented (37.1%, n = 39).

Table 1: Demographic data of the participants.

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	30	28.6
	Female	75	71.4
Academic year	Fourth year	66	62.9
	Intern	39	37.1

The Nature of SM Use by the Participant:

Table 2 shows the nature of SM use by the participants. A total of 105 participants (100%) reported having at least one social media account. Regarding the most frequently visited platforms, Facebook was reported as the predominant site (34.3%), followed by YouTube (28.6%), other platforms (22.9%), and Instagram (14.3%). When examining the reasons for using social media, the majority of respondents indicated that they use these platforms

primarily for communication (54.3%). This was followed by academic or work-related purposes (22.9%), social conformity (20%), and relaxation (2.9%). In terms of usage frequency, all participants (100%) reported accessing social media on a daily basis. The average time spent on social media varied, with 45.7% spending between one and two hours per day, 28.6% spending more than two hours, 22.9% spending between 30 minutes and one hour, and only 2.9% reporting usage of less than 30 minutes per day.

Table 1: Nature of SM use by the participants

Variable	Category	Frequency	Percentage%
Do you have social Media Account?	Yes	105	100
	No	0	0
Most Frequently Visited Platforms	YouTube	30	28.6
	Facebook	36	34.3
	Instagram	15	14.3
	Other	24	22.9
Reasons for Using Social Media	For relaxation	3	2.9
	For study or work	24	22.9
	For communication	57	54.3
	Because everyone has	21	20
Frequency of Use	Daily	105	100
	Weekly	0	0
	Monthly	0	0
Average Time Spent	<30 min	3	2.9
	30 min–1 hr	24	22.9
	1–2 hrs	48	45.7
	>2 hrs	30	28.6

The Use of SM for Educational Purposes and Its Benefits and Negative Impacts:

Table 3 show that all respondents reported having at least one social media (SM) account, with 100% (n = 105). The majority agreed that social media improves access to course materials, with 97.1% (n = 102). Similarly, 85.3% (n = 87) stated that SM supports independent learning, while 14.7% (n = 15) did not share this view. In addition, 97.1% (n = 102) reported being members of educational groups on social media. Regarding the type of connected searches related to operative dentistry, clinical pictures were the most frequently accessed content (40%, n = 42), followed by radiographs (28.6%, n = 30), text-based content (17.1%, n = 18), and other forms of media (14.3%, n = 15). When asked about preferred sources of dental-related information, 57.1% (n = 60) selected the Internet as their primary source, compared to 22.9% (n = 24) who

preferred lecture material and 20% (n = 21) who relied on textbooks. The most common reasons for preferring Internet-based sources included ease of access (40%, n = 42), recent updates (37.1%, n = 39), and time-saving (22.9%, n = 24). A large proportion of students (90 respondents) agreed that SM is effective for engaging with and obtaining new dental information, while 15 disagreed. Similarly, 84 participants considered clinical procedures shared on SM to be a helpful learning tool. Regarding usage patterns during academic activities, 57 participants reported “usually” using SM during lectures, laboratory sessions, and clinics, followed by 27 who reported “always,” and 21 who reported “mostly.” When asked whether they could stop using SM during examination periods, 62.9% (n = 66) responded “yes,” whereas 37.1% (n = 39) stated they could not. Finally, 57 participants agreed that spending time on SM negatively affects their academic performance, while 48 disagreed.

Table. 2 The Use of SM for Educational Purposes and Its Benefits and Negative Impacts

Variable	Category	Frequency	Percentage%
Have any type of SM for your education	Yes	105	100
	No	0	0
SM improves access to courses and learning material	Yes	102	97.1
	No	3	2.9
SM improves independent learning	Yes	87	85.3
	No	15	14.7
Educational groups on SM	Yes	102	97.1
	No	3	2.9
Search type (operative dentistry)	Text	18	17.1
	Radiograph	30	28.6
	Clinical picture	42	40
	Other	15	14.3
Preferred source for dental content	Textbook	21	20
	Lecture	24	22.9
	Internet	60	57.1
Reasons for preferring Internet	Time saving	24	22.9
	Recent updates	39	37.1
	Ease of access	42	40
SM effective to engage and obtain new information	Agree	90	85.7
	Disagree	15	14.3
Clinical procedures helpful on SM	Agree	84	80
	Disagree	21	20
Use of SM during lectures/labs/clinics	Always	27	25.7
	Usually	57	54.3
	Mostly	21	20
Can stop using SM during exams	Yes	66	62.9
	No	39	37.1
Negative effect on academic performance	Agree	57	54.3
	Disagree	48	45.7

Discussion:

The majority of participants in this study were female (71.4%), which might be explained by the recent progression of women into dental faculty positions. These findings are in accordance with studies reported by Cumerlato et al [9], and Priti et al [10]. The present study demonstrated that all the participants were actively using multiple SM accounts, and all of them used them daily. The explanation for this finding is that social media has become deeply integrated into the daily academic and personal routines of dental students. Data from the respondents demonstrated that Facebook was the platform they predominantly utilized for interpersonal communication, followed by YouTube. Consistent with the present findings,

a previous study examining social media use among faculty members found Facebook to be the predominant platform used by participants [11]. Comparable findings were observed in a 2024 study involving undergraduate dental students at the University of Benghazi, Libya [7]. On the contrary, a similar study performed on Saudi dental students found that WhatsApp was the most frequently used SM application [12]. The popular use of Facebook in this study is not surprising given that it is the most popular SM platform among the Libyan general population, although the cause of the different results from other studies is unknown; cultural differences may be responsible. Dental students use social media for a variety of objectives, including relaxation, study or work,

communication and because everyone have communication, the primary purpose of using SM in our study was communication; similar findings were reported in a study in Saudi Arabia for implementing social media as an educational tool [12], and in study conducted among 202 undergraduate students at Ras Al-Khaimah College of Dental Sciences in Saudi Arabia^[13], this reflects how young adults communicate today. The findings of the current investigation demonstrate that social media serves as a major educational resource among dental students. These results corroborate the observations of Burns et al., who identified YouTube as a frequently used tool for learning diverse clinical procedures and for improving both the conceptual understanding and visual perception of dental practices^[18]. And also corroborated with Farghal et al., who revealed that YouTube videos were predominantly used as a supplementary tool to traditional dental education^[13]. This result can be attributed to the increasing integration of digital technology in higher education and the growing accessibility of social media platforms. The present findings demonstrated that a substantial number of participating students exhibited a positive inclination toward recommending social media as a supplementary educational tool. These results are consistent with the study by Farghal et al., which similarly highlighted that social media serves as a beneficial medium for supporting professional learning and promoting engagement among dental undergraduates^[13].

The majority of participants reported that they are members of educational groups on social media related to dental education. This study indicates that social media platforms are becoming increasingly vital for promoting knowledge sharing and enhancing professional development among dental students and practitioners. Participation in such groups may enhance access to updated information, peer discussion, and clinical case sharing, which contribute to continuous learning outside traditional academic environments. This result is consistent with previous studies indicating that social media serves as an effective supplementary educational tool in dental education. The material searched in the SM related to operative dentistry is most often clinical picture content (40%) followed by radiographic, text, and other. This is in congruence with the result obtained by Marya et al [14]. This study of Kumar et al [15], and Ayatollahi et al [16]. Is, however, in direct disagreement with the above finding. The results of their study imply that most of the students access the SM for text and not clinical picture content. Students prefer the internet for collecting dental-related content more than lecture handouts and textbooks. The results vary widely from the study of Priya, et al,[5] where students prefer the internet, lecture handouts, and the textbooks equally for learning

concepts in dentistry, while Jali et al. Agreement with the results of our study [17]. The finding that participants preferred the Internet over other sources of dental education due to time saving, recent updates, and ease of access reflects the growing integration of digital technology into dental learning environments. These results are consistent with the literature emphasizing that online learning environments enhance accessibility, flexibility, and engagement in dental education. Therefore, integrating structured digital literacy and evidence-based online learning strategies into dental curricula is essential to maximize the educational benefits of digital platforms while maintaining scientific credibility and academic standards. Although social media offers educational benefits, its use in dental education may entail potential disadvantages that could negatively affect students' time management and academic performance. The current study results revealed that about 54.3% of the participating students Usually use SM during lecture, laboratory, and clinical sessions, and many students worry about their ability to stop using SM, even during examinations, which leads to SM addiction. Previous studies suggest that uncontrolled SM use could contribute to internet addiction by leading to neurological, psychological, and social disorders. Accordingly, utilizing SM, even in dental education, may be particularly harmful to any students who are prone to addictive behaviors due to these biochemical effects that can lead to negative behaviors such as social isolation^[18]. Research conducted in the past has demonstrated that uncontrolled SM use negatively affects dental students' academic achievement [13]. Poor awareness of time management may contribute to diminished academic outcomes and, in some cases, reflect tendencies toward behavioral addiction^[19]. The present investigation revealed that students were aware that spending time on SM can negatively affect their academic performance, which is in line with Farghal et al and Rajeh et al. The authors reported a negative association between excessive social media use and dental students' academic performance[13-12].

Limitations:

This study has several limitations. First, the use of a self-administered questionnaire may introduce response bias. Second, the cross-sectional design does not allow assessment of causal relationships between social media use and academic performance. Third, the sample was limited to a single dental school. Future studies with larger and more diverse samples and longitudinal designs are recommended.

Conflict of Interest

There are no financial, personal, or professional conflicts of interest to declare.

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