

E. Professionalism: Medical Students Pattern of Social Media Use, Attitudes and Perceptions in the Age of Online Social Networking

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Abstract

Objective: To understand medical students' perspectives on e-professionalism, including their online presence in social networking sites (SNS), professional boundaries, and the appropriateness of content shared on SNS.

Material and Methods: Following Institutional Review Board approval & informed consent, data was collected from 1100 medical students in a public sector medical university in Lahore. An anonymous, self-administered questionnaire based on previous literature was used for data collection. Questionnaire covered demographic information; Social networking usage pattern; online privacy & profile; professional boundaries; and appropriateness of posted content related to social networking sites. Data was analyzed by SPSS 26.0.

Results: Almost all the medical students (1087, 99%) were using social media, mainly "WhatsApp" and "Facebook". Forty-six% (510) of them never monitored their online presence at any social media site. More than 3/4 of the students had their personal information available on SNS. Nearly half (48.2%) students accepted friend requests from faculty and 470 (42.8%) medical students invited faculty as friend. Students overall exhibited good understanding of posts related to violation of patients' privacy, description of patient encounter in negative tone, derogatory remarks about ones' institution, faculty, classmates and medical profession etc, as being unprofessional and inappropriate. Only a small percentage (14%) of students mentioned any discussion regarding online medical professionalism in classes and just 19.5% were aware of any guidelines related to social media use in medical profession.

Conclusion: Social media use is prevalent among medical students. Better understanding of student's pattern of social media uses as well as their perspectives of unprofessional content and how they feel medical schools should improve awareness of these issues could help inform policy development efforts as well as approaches to teach medical e-professionalism.

Keywords: Social media; Social networking; Medical education; Medical students; Professionalism

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Introduction

Professionalism is identified as a core competency by the Accreditation Council for Graduate Medical

Education (ACGME) and include various domains like compassion, respect for patient, privacy, confidentiality, and responsiveness to patient needs as well as professional accountability to society.¹ However, in the age of growing social media, it is becoming challenging for medical students to maintain the similar standards of professionalism and ethics while broadening the horizon of their interactions through social networking sites (SNS) including Facebook, WhatsApp, LinkedIn, Twitter, and many more.

The adaption of social media by healthcare professionals helps to bridge the communication gap with patients,

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encourage patient to patient interaction, provide information regarding various conditions, observe patient feedback, encourage overall health promotion and education, and to provide online consultations.^{2,4} Alongside numerous benefits however, there are equal if not more number of concerns as well. These concerns include reliability of available data, information overload, privacy concerns, the risk of providing incorrect advice, and uncertainties about applying online information to personal health, which may lead to adverse health consequences.^{2,4,5} The expectations of online professionalism for medical students are same as are for doctors, yet maintaining a balance between personal and professional images poses a challenge. A professional approach in digital world is crucial to maintain public trust in medical profession, thus leading to a new e-professionalism/ online medical professionalism construct. E-professionalism / online medical professionalism can be considered as a “relatively new construct with regards to professional attitudes and behaviors displayed in online domains and as part of one’s online presence on social networking sites like Facebook.” Research indicates that despite recognizing certain themes as unprofessional, a significant percentage of medical students have observed and posted such content. Troublesome themes of unprofessional conduct, defamation of faculty & institutes, breaches of patient confidentiality, sexual and violent content, friending patients and faculty are observed by researchers in this field.⁶ Unprofessional online behaviour has led to consequences such as suspension, job dismissal, license restrictions, and trust issues in the medical profession.⁵ To address these challenges, organizations have developed guidelines emphasizing patient confidentiality, privacy, boundaries, accuracy, conflict declaration, and maintaining separate profiles.⁷

Most of the literature on e-professionalism focuses on Western medical institutions, neglecting the underrecognized and under-researched status of this field in Pakistan.^{8,9} Little is known about how our medical students perceive social networking boundaries, to what extent interactions are happening between faculty, students and patients, are there any concerns by medical students about privacy issues or what do they perceive as unprofessional content online. Thus, the Objective of the study were to explore views of e-professionalism among medical students linked to online presence, professional boundaries, and appropriateness of posted content related to social networking sites. Pattern of social media usage

by medical students was also explored. This is crucial for informing policy development and effective training approaches in medical e-professionalism.

Material & Methods

It was a cross sectional Analytical Study conducted in a Public Sector Medical University in Lahore. After the taking approval from IRB Committee of UHS Dated: 28-09-2026. The sampling technique was non-probability purposive sampling. Following ethical approval and informed consent, all enrolled medical students (Preclinical & clinical years) of the University at the time of study were invited to participate. Subjects who did not give informed consent and medical students who were not present in lectures during planned visits for data collection were excluded. The sample pool consisted of 1100 medical students including 516 pre-clinical students and 584 clinical students. An anonymous, self-administered questionnaire based on previous literature was used for data collection.¹⁰ Permission was obtained from the author of previous research on similar topic to use section of questionnaire from their paper.¹¹ Systematic process as per AMEE guide no 87 to developing questionnaire for educational research was followed. Prior to data collection, questionnaire was internally reviewed for content & validity by an expert in the field and assessed for face validity by 3 colleagues. Questionnaire was piloted initially in a group of medical students (to assess how long it took to fill out, the understandability & clarity of questions) and their feedback was incorporated in the final questionnaire. Cronbach’s alpha of subsection of final scale ranged from 0.7 to 0.8. Various sections questionnaire comprised of categorical, yes/no & multiple-choice responses. Data was analysed by SPSS 26.0. Descriptive statistics was calculated for the whole data. Quantitative variable like age was presented as mean + standard deviation. Qualitative variables were presented as frequency and percentages. Comparisons of gender and preclinical & clinical students’ use of SNSs, and perceptions of appropriateness of student social networking behaviours was done using the chi square test. Statistical significance was fixed at level of $P < .05$.

Results

1100 medical students with mean age of 20.12 ± 1.60 years responded. Among them 693(63%) were female, and 584(53.1%) belonged to clinical years. 1087 (98.8%) were found to be using social media and SNS. (Table 1) Very few medical students (32, 3%) have had separate

accounts for personal and professional use of social media. Majority of the medical students 360 (32%) admitted to spending 1 to 5 hours on social media daily.

The most used platforms among medical students in our study were the “What’s App” (52%) and “Face Book” (45%). “LinkedIn”, “Snap Chat” and “Twitter” were infrequently used by medical students. 18.6% student liked to use Instagram very frequently.

The three topmost concerns regarding use of social media by medical students in our study were posting of inaccurate medical information of patients (52%), violations of patient confidentiality (45.7%) and public perception of medical profession (33%). Surprisingly public perception of unprofessional behavior in social media by colleagues or student themselves was not considered important by significant proportion of respondents (37 & 27 % respectively).

Table 1 describes pattern of Online Presence of Medical Students. A significant proportion (46%) medical students reported never monitoring their online presence at any social media site. More than 3/ 4th of medical students had their personal information available on SNS. There was no statistically significant difference in genders or phase of study (preclinical and clinical students) in use of social media or hours being spend on social media. However, differences were observed between groups with regards to presence of personally identifiable information availability on social media/ SNS. Females and preclinical students were more likely to identify themselves as medical students on SNS but not post their personal photograph as profile picture. On the other hand they were also more likely to use privacy settings alongside accepting and inviting faculty to be friends ($p < .05$). Content of posts related to politics [754(67.8 %)], reference to medical college in negative tone [599(54.5)], use of foul language [547(49.8)], and reference to faculty in negative tone [531(48.3)] by medical students were the highest categories of unprofessional postings observed by respondents in our study. (Table 2) Table 3 provides information about medical student’s perception of appropriateness of various hypothetical activities related to Social Media usage. Student overall exhibited good understanding of posts related to violation of patients’ privacy, description of patient encounter in negative tone, derogatory remarks about ones’ institution, faculty, classmates, and medical profession etc., as being unprofessional and inappropriate. Furthermore, while accepting or sending a request to a current patient was largely considered inappropriate,

Table 1: Online Presence and monitoring by medical students

Variable	f(%)
Monitoring of online presence	
• Never	510 (46.4)
• Occasionally	335 (30.5)
• Regularly	136 (12.4)
• Frequently	90 (8.2)
• Very frequently	28 (2.5)
Reasons of monitoring online presence	
• Information is accurate	556(50.6)
• Information is professional	220(20.0)
• Information is complete	180 (16.4)
Action taken by medical students towards information which in their view should not be publicly available:	
• Remove my name from photos that were tagged to identify me.	479 (43.6)
• Delete people from friend list.	364 (33.1)
• Delete comment made by others on my profile.	349 (31.8)
• No action	153 (13.6)
Online Personal information	
• Display real pictures.	977 (88.0)
• Current institute	900 (81.9)
• Identify as a medical student.	887 (80.7)
• Birth date.	810 (73.7)
• Personal photograph	506 (46.0)
Other online media presence patterns	
• Use privacy setting.	992 (90.3)
• Accept friend request from faculty.	530 (48.2)
• Invite faculty as friend.	470 (42.8)
• Google faculty members	413 (37.6)
• Accept friend request from patients.	137 (12.5)
• Invite patients as friend	94 (8.6)

Table 2: Observation of unprofessional content posted by medical student online.

Variable	f(%)
Improper content related to politics	754(67.8)
Reference to medical college in negative tone	599(54.5)
Use of foul language	547(49.8)
Reference to faculty in negative tone	531(48.3)
Reference to medical profession	523(47.6)
Post related to violence	443(40.3)
Reference to colleague in negative tone	407(37.0)
Information not generally disclosed in traditional teacher, student, patient	275(25.0)
Unidentified patient info	216(19.7)
Sexual content	194(17.7)
Violation of patient privacy	180(16.4)
Reference to patients in negative tone	173(15.7)

sending, or accepting friend request by current teachers was not considered inappropriate by majority of respondents.

Only 158(14%) medical students reported any discussion in the class about the online medical professionalism. 214(19.5%) were aware of any international or national guidelines related to student’s use of social media. Regarding the helpfulness in teaching online medical professionalism to medical students 777(70.7%) students reported in favor of raising awareness through discussion involving students. Other suggestions included educating medical students regarding social media during orientation [709(64%)] and the availability of guideline and institutional polices regarding the online medical professionalism [665(59.6%)].

Discussion

Social media use has infiltrated the society and all professions including medicine. Unfortunately, medical students and residents who are just in their initial years of training and beginning to develop sense of medical professionalism may not be able to understand the complexities of intersection of medical professionalism and social media use. This study assessed pattern of social media usage by medical students in Lahore as well as

their understanding of some aspects of online medical professionalism with regards to social media networking sites. In our study, 99% of medical students used social media, with 62% utilizing same social media accounts for both personal and professional purposes. American Medical Association policy on social media and professionalism strongly endorses having separate online accounts/identities for various roles.¹² It also highlights importance of healthcare professionals to be aware of blurring personal and professional lives. Social media platforms unique characteristics of persistence, searchability, replicability and invisible audience lead to “permanent” digital footprint and can blur personal and professional identities. Altogether these pose serious challenges and considerations in terms of professionalism in digital era. For Medical students, who are “growing online”, these challenges are magnified as they are often unaware of the potential risks.¹³

A significant majority (90%) of respondents mentioned using privacy settings in social networking sites. We noticed less concern about privacy setting in our clinical students in comparison to preclinical students, although increase awareness about boundaries with faculty and patients in social media use was observed as students

Table 3: Perception of appropriateness of various hypothetical activities (adapted from Kitsis et al, 2016)

Social Media Activities	Completely inappropriate <i>f</i> (%)	Somewhat inappropriate <i>f</i> (%)	Not sure <i>f</i> (%)	Somewhat appropriate <i>f</i> (%)	Completely appropriate <i>f</i> (%)
Access social network at work	222(20.0)	374(34.0)	165 (15.0)	259(23.5)	80(7.3)
Send a friend request to current teacher	170(15.5)	201(18.3)	218 (19.8)	335(30.5)	176(16.0)
Accept friend request from current teacher	133(12.1)	134(12.2)	225 (20.5)	335(30.5)	273(24.8)
Send friend request to current patient	401(36.5)	230(20.9)	332 (30.2)	96(8.7)	41(3.7)
Accept friend request from current patient	334(30.4)	206(18.7)	310 (28.2)	171(15.5)	79(7.2)
Friending hospital/ administrative staff	183(16.6)	185(16.8)	266 (24.2)	321(29.2)	145(13.2)
Description of patient encounter using respectful tone	105(9.5)	82(7.5)	252 (22.9)	335(30.5)	326(29.6)
Description of patient encounter using negative tone	665(60.5)	181(16.5)	192 (17.5)	42(3.8)	20(1.8)
Derogatory/ offensive remarks about faculty	646(58.7)	226(20.5)	149 (13.5)	52(4.7)	27(2.5)
Derogatory remarks about ones’ institution	672(61.1)	206(18.7)	129 (11.7)	64(5.8)	29(2.6)
offensive remarks about classmates	672(61.1)	199(18.1)	130 (11.8)	63(5.7)	36(3.3)
Derogatory/offensive remarks about medical profession	714(64.9)	188(17.1)	114 (10.4)	52(4.7)	32(2.9)
Tagging faculty pictures on face book	333(30.3)	254(23.1)	281 (25.5)	177(16.1)	55(5.0)
Posts related to politics	260(23.6)	250(22.7)	245 (22.3)	227(20.6)	118(10.7)
Posts related to violence	567(51.5)	195(17.7)	179 (16.3)	107(9.7)	52(4.7)
Violation of patient privacy	857(77.8)	83(7.5)	110 (10.0)	25(2.3)	26(2.4)

progressed in their careers. Almost three fourth of medical students in our study also admitted to availability of their personal information (date of birth, institution etc.) including personal photographs online. Displaying personal details potentially expose this private information to an unknown audience which can compromise safety and privacy. Ill-advised sharing of information online has been known to cause legal, academic, and professional problems for healthcare professionals.^{6,13} 46% of medical students reporting that they never monitor their online presence at any social media sites. Some studies suggest that perhaps students are aware of need to monitor their digital footprints while in professional life, but do not see its importance while they are in medical college. Other reason may be lack of awareness regarding various guidelines recommending regular monitoring and routine “electronic self-audit “of one’s online identity to be aware of the personal information available publicly.⁷

Interactions on social media between medical students and various stakeholders, including patients and faculty, are scrutinized. Confidentiality, privacy, respect for patient are necessary in every interaction to maintain public trust in the profession. Only 137(12%) medical students in our study accepted friend request from patients. Potential abuses of social media may hamper efforts to maintain professional decorum and distance required in patient -doctor relationship, which is also taught and reinforced in medical training. Federation of State medical Board specifically discourages doctors from “interacting with current or past patients on personal social networking sites such as Facebook”.¹² Another aspect of online medical professionalism which needs consideration is online relationships between faculty and students/ residents. Apparently both faculty as well as students in our study do not see much of a problem by interacting online in our setup. However, problems may arise if faculty has a role as an evaluator or is a supervisor.

Concerns regarding breaches of professionalism are not unfounded as almost half of medical students in our study observed what they considered as unprofessional posts posted by medical students online. Our results are in line with other studies on this topic. 60% of Deans in US medical schools admitted to dealing with posting of unprofessional content by medical students.¹⁴ There has been a lot of debate on what constitutes unprofessional behavior for medical students and physicians. This

subjectivity is further influenced by cultural variations.¹⁵ Similar divergent views regarding appropriateness of various hypothetical online medical students’ activities were noticed by our students. A very interesting study by Jain tried to determine what is appropriate to post on social media and asked students, faculty, and public to rate mock Facebook profiles of medical students depicting a range of behaviours. Results showed that medical students were more likely to post materials which faculty and public would consider inappropriate and unprofessional. Also, faculty and public had more conservative views regarding appropriateness of material to be shared online in comparison to medical students.^{16,17,18} Literature suggests that medical students’ postings in social media are generally guided by their own interpretations of what is appropriate to post and by their desire to limit personal risk.¹⁵ The need for clear guidelines and policies on social media use in medicine is emphasized, with only a small percentage of respondents being aware of existing formal guidelines. Medical educators need to develop curricula and social media policies which will need to be updated regularly given rapid changes in social media and disseminated and discussed in Institutions.

There are many limitations of this study. It was a single institution study so its generalizability to other medical colleges is unknown although we have no reason to believe that student differ much with regards to social media use in other medical institutions. We evaluated social media sites as a whole and used “friending” term broadly although it is more linked with Facebook etc. Furthermore, the study does not entail faculty or residents or public perception of e-professionalism. There are likely to be variations according to age and seniority as has been found in previous studies.

Despite these limitations, study has several strengths. It did gathered data from a large number of students in both clinical and preclinical years. We have shown that social media use is very prevalent in our medical students and provides an interesting snapshot of their attitudes and practices in online social networking sites. Study has identified areas for medical educators in our country to focus on.

To conclude, social media use brings a new dimension to healthcare in 21st century. Incorporation of ethical and professional social media use, proactive policies and training can effectively reduce risks and challenges

associated with the use of social media in medical profession. Educational interventions related to digital forums is need of the day as “connectivity should not come at the cost of Professionalism”.

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Authors Contribution

NI: Conceptualization of Project

SS, NI: Data Collection

AA, NI: Literature Search

AA, NI, SS: Statistical Analysis

NI: Drafting, Revision

NI: Writing of Manuscript