Medical students'online network abuse

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Abstract

Background: Nowadays, social networks play an important role in medical students' life. Despite their benefits, unprofessional posting could harm medical society. This study aims to assess the prevalence and patterns of social network abuse and its association with gender, academic year, and GPAX.

Method: A cross-sectional study using self-administered questionnaire was conducted among medical students in the Faculty of Medicine, Chulalongkorn University in 2009.

Results: Of 1,002 participants, 83.7% actively used social networks, most of which were Facebook, MSN, and Hi5. Up to 16.3% made unprofessional posting. Females reported better attitude and lower prevalence than males. Students' attitude and behavior improved across the year. There was no association between attitude/behavior and GPAX. Regarding the faculty's involvement, students prefer distinct recommendation to strict regulation.

Conclusion: Few medical students made unprofessional posting. They seemed unconcerned with ramifications of their posting. The faculty should establish a clear guideline to enhance students' professional responsibility.

Introduction

The widespread popularity and use of the internet has made global communication much easier. In Thailand alone, the growth rate of internet users has increased 600% in the last decade (Internet World Stats 2010). According to Thailand's National Electronics and Computer Technology Center (NECTEC), the most common usages were checking email, entering local new media websites and chatting on online social networks (Internet Thailand 2010).

Online social networking encompasses websites that connect people. People use them to meet friends, keep in contact with family members, share photos and videos, and so on (Boyd & Ellison, 2007; Guesh et al., 2009;

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Lagu et al., 2008). One of the main features in these sites is the member's profile which contains a variety of information including photographs. Besides the profiles, stories, and comments, some sites have photo-sharing or video-sharing capabilities. Thus, via the internet, any inappropriate content can be posted and visualized around the world (Esen, 2010).

Nowadays, social networks play an important role in medical students' lives. The most popular of which are Facebook and Hi5, which come with many useful features and activities. For example, they allow medical students to broadcast themselves and communicate with other people. Thompson and colleagues (2008) stated that 44.5% of medical students had Facebook accounts, with most of them listing at least one form of personally identifiable information. Since most medical students post content determined by their common sense (Chretien et al., 2010), there have been a number of recently reported incidents of medical students posting unprofessional content (Chretien et al., 2009). Many studies reported that a great deal of medical students seem unaware of or unconcerned with the possible ramifications of sharing publicly personal information online although the information could affect their

professional lives (Guesh et al., 2009; Esen, 2010; Thompson et al., 2008; Ferdig et al., 2008; Royal College of Physicians, 2005). Indeed, some of them post inappropriate information such as details concerning a patient's confidentiality, pornography, and intoxication (Chretien et al., 2009) which is harmful to the medical society (Guesh et al., 2009; Lagu et al., 2008; Esen, 2010).

The pattern of such behavior may worsen throughout their studies and careers. Indeed, the unprofessional behavior of medical students in their early years was associated with unprofessional behavior in later medical practice (Papadakis et al., 2005). For example, if the habit of such posting practices is present in the pre-clinical years, the consequences may in fact continue into the clinical years. However, there have been only a few medical schools taking action against such posting; only 38% of US medical schools had institutional policies covering student-posted online content (Chretien et al., 2009). Thus, we need to find a solution for this increasingly problematic dilemma.

To become a doctor, a medical student needs to learn how to gain clinical competence, communication skills, legal knowledge, and high standards of medical professionalism. However, online social networking and its associated problems is a new issue arising over the last decade and there are no guidelines or codes of conduct as concerns regulating medical students' online usage. This study aims to report the prevalence and ways in which Thai medical students abuse online networks, their associations with gender, academic year, and cumulative grade point average (GPAX), and what the faculty should do to regulate online network usage. The information from this study may help the faculty develop an appropriate environment, curriculum, and even regulations, aimed at minimizing such unprofessional behavior in the cyberworld.

Methods

A cross-sectional study using a self-administered questionnaire was conducted in the Faculty of Medicine, Chulalongkorn University in the academic year 2009. All medical students were recruited (n=1,605).

The questionnaire was developed based on the previous related literature (Thompson et al., 2008; Chretien et al., 2009; Ferdig et al., 2008), a pilot study, and experts' suggestions. All the comments, details, and the topics that should be covered in this study were reviewed. The questionnaire consisted of five parts, which are:

Part I General information

Part II Social network habits

Part III Inappropriate behaviors on social networks

Part IV Inappropriate attitudes on social networks

Part V Faculty's regulations concerning online networks

Parts III and IV were divided into eight categories: patient information, medical student's inappropriate behavior, sexism, violence, rudeness, racism, political discrimination, and religious harassment. The answers in Part III were separated according to inappropriate behaviors via three means of communication: text, picture, and clip. The answers in Part IV were collected using a Likert-type scale to ask for students' opinions whether they could do each posting: never, possible, probable, yes. The answers "never" and "possible" were assigned to the category of good attitudes, while "probable" and "yes" were assigned to bad attitudes to enhance the results.

The questionnaire was pre-tested on five students from each academic year to determine the relevance of the questions and the extent to which there might be problems in obtaining responses. This group was asked to complete this preliminary version of the questionnaire and later criticize it in terms of the readability, clarity, and sequence of the questions. The time required to complete the questionnaire was recorded. The questionnaire was then modified and all pre-test responses were discarded. An expert was consulted after conducting a pilot study in order to develop the questionnaire's clarity and quality.

The study started after the approval of the Faculty's Institutional Research Board Committee. Since medical students might be considered vulnerable subjects, it was emphasized that their participation must be voluntary, anonymous, and confidential. Their participation, or lack thereof, did not affect their learning process or evaluation. They were allowed to choose not to answer any question they felt uncomfortable to answer. The participant's consent was assumed through the returning of the completed questionnaire. Any student who was absent on the survey day was excluded. Partially completed questionnaires were also included in the analysis.

Data analysis was performed by SPSS software (version 13.0 for Windows; copyright 2004. SPSS Inc. Rainbow Technologies, Chicago, III), using percentage frequency responses. Chi-squared and Fisher's exact tests were used for categorical variables. Logistic regression modeling was used to estimate the effect of a variable adjusted for others. A p value of less than 0.05 was considered statistically significant.

Results

The total proportion of medical students participating in the study was 62.4% (1002/1605). The general information regarding the participants is shown in Table 1.

Most of the students (83.7%) used social networks. In terms of frequency, the top five networks medical students most often use were Facebook 77.0%, MSN 75.7%, Hi5 47.5%, Multiply 11.3%, and Twitter 9.6%, in respective order. The majority of students used the social network for 1-2 hours daily (68.5%), followed by 3-4 hours (17.0%), 4-6 hours (6.1%), and more than 6 hours (8.4%). As concerns the information the students provided, 67.8% of them used their real name and surname, 15.6% gave their address, 11.9% provided their mobile number, while only 0.7% provided their credit card number.

Table 2 shows the prevalence of inappropriate behaviors and attitudes. As regards to texting, students posted material related to rudeness (16.3%), political discrimination (8.7%), and patient information (8.4%), respectively. Concerning picture, they posted patient information (8.2%), inappropriate behavior by medical students (3.3%), and political discrimination (1.9%), respectively. Regarding clips, posted inappropriate behavior of other medical students and political discrimination, both at 0.8%. The content least posted by students via all means was racist (text 1.1%, picture 0.5%, and clip 0.2%).

Regarding attitudes, the three most inappropriate postings the students thought they could post were political discrimination (24.4%), rudeness (11.9%), and religious harassment (11.3%).

Since the prevalence of online abuse by posting clips was low (less than 1%), we excluded these data from association analysis. As shown in Table 3, males carried out more online abuses more than female students (6 from 8 topics; $p<0.05$). The medical students in earlier years made some inappropriate postings than the older students (2nd year=3 topics, 4th & 5th years=1 topic each). There was no association between GPAX and online abuse.

Table 1   General Information (n = 1,002)

Variables	Number (%)
Gender[a] (996)	
Male	493 (49.5%)
Female	503 (50.5%)
Year[b] (1000)	
1	217 (21.7%)
2	210 (21.0%)
3	181 (18.1%)
4	222 (22.2%)
5	64 (6.4%)
6	106 (10.6%)
GPAX[c] (988)	
$\leq$ 2.00	3 (0.3%)
2.01 – 2.50	20 (2.0%)
2.51 – 3.00	114 (11.5%)
3.01 – 3.25	165 (16.7%)
3.26 – 3.50	236 (23.9%)
> 3.50	450 (45.5%)

a missing data = 6 (0.6%), b missing data = 2 (0.2%), c missing data = 14 (1.4%)

Table 2: Prevalence of Inappropriate Behavior and Attitude

Topics	Behavior[a] (%)			Attitude[b] (%)
	Text	Picture	Clip	
1. Patient information[c]	8.4	8.2	0.6	10.1
2. Inappropriate behavior by medical students	5.8	3.3	0.8	8.8
3. Sexism	2.1	1.0	0.5	6.5
4. Violence	2.5	0.9	0.5	7.9
5. Rudeness (speech/behavior)	16.3	1.3	0.7	11.9
6. Racist	1.1	0.5	0.2	5.7
7. Political discrimination	8.7	1.9	0.8	24.4
8. Religious harassment	1.3	0.6	0.2	11.3

a Inappropriate behavior is an abuse medical students really <u>committed</u>.
b Inappropriate attitude is medical students' <u>opinion</u> that they can or possibly can post the inappropriate topics in social network, for example, they think they can post patient information in social network.
c Only 4th-6th year students answer this topic (n= 332).

Table 3: Inappropriate Behavior and its Association with Gender, Academic Year, and GPAX

Topics	Gender[Δ]	Year	GPAX
1. Patient information	-	√ (P) [a]	-
2. Inappropriate behavior by medical students	-	√ (T) [b]	-
3. Sexism	√ (T,P)	-	-
4. Violence	√ (T,P)	-	-
5. Rudeness (speech/behavior)	√ (T,P)	√ (T) [b]	-
6. Racist	√ (P)	-	-
7. Political discrimination	√ (T,P)	√ (T,P) [b]	-
8. Religious harassment	√ (T)	-	-

√ shows statistically significance (p <0.05) in T=Text, P=Picture
Δ means amount of male abuse more than female
a abused by 4th year student.
b abused by 2nd year students

The 1st-4th year students had more inappropriate attitudes than 5th-6th year students in three topics: patient information (p=0.021), rudeness (p=0.002), and political discrimination (p=0.001). However, there was no association between GPAX and inappropriate attitudes.

Regarding the faculty's regulations for social networks, most of the students did not want any restrictive policies, but instead asked for the faculty to have clear guidelines and reasonable strategies for using social networks in the institute to enhance the professional responsibility of students.

Discussion

This study, concurring with one previous study (Thompson et al., 2008), revealed that the most popular social network medical students used was Facebook (77.0%). The long duration of daily online network usage (1-2 hours; 68.5%) might be due to electronic devices that allow for easy and friendly access, thereby allowing medical students to use social networks more often, even in class.

Most students revealed their real name when using social networks in order to communicate with their friends and they felt safe doing so. However, they were more careful with personal information, such as address, phone number, and credit card number. In most cultures, students often use slang and rude words among their circle of friends, which may be why the rudeness was most prevalent in the network (16.3%).

About 8% of students posted patient information online which indicated that they might not be aware of the necessity of patients' rights to confidentiality. The faculty should take measures against this problem because medical students may not be adequately prepared as concerns professional conduct associated with sharing private information publicly, as has been shown in previous studies (Lagu et al., 2008; Thompson et al., 2008; Chretien et al., 2009).

A recent study stated that a lot of students considered posting pictures showing intoxication and sexual issues inappropriate (Chretien et al., 2010). However, racism (94.3%) and sexism (93.5%) were the two greatest issues concerned in our study.

Almost all inappropriate attitudes and behaviors corresponded in the same way. For example, the students considered sexism to be inappropriate (6.5%), so only few of them posted this topic online (text 2.1%, picture 1.0%, and clip 0.5%). Nevertheless, the topic that did not correspond was political discrimination. The students considered political discrimination to be most acceptable (24.4%), while only 8.7% in reality posted their ideas or opinions concerning politics.

Inappropriate attitudes and behaviors were more prevalent among males than females in almost all aspects. This could be explained by the nature of males being more aggressive than females. Contrary to a recent study (Chretien et al., 2010), our study found that the students had better attitudes and behaviors across academic years.There was no association between either inappropriate attitudes or behaviors and GPAX.

The limitation of the study includes the fact that the students' participation was voluntary, so the response rate could not be predicted. There is no uniform standard for an acceptable response rate; however, 60% is barely acceptable according to Peninsula Research & Development Support Unit (2003). Although

some bias might occur, the study's response rate (62.4%) can still be considered acceptable. Furthermore, this study relies on self-reported basis. The way students responded to the questionnaire might be influenced by the bias of social acceptability. Students who refused to respond to any particular question may indicate uneasiness in telling the truth. In addition, the results of the cross-sectional study are only those at one specific time. Over time, the results and trends of online abuse and students' behavior might change. Therefore; the results obtained can alter over time. Since this cross-sectional study may not allow conclusion on causality, the reasons why students responded and why they said what they cannot be interpreted directly .A further study should be conducted a follow up with some focus groups to explore the issues and expand upon the findings.

In this information age, medical students are ambivalent to abuse of online social networks. Students need to keep in touch with friends, but they can also get into trouble (Chretien et al., 2010).Similar to Chretien et al.'s study (2010), our study found that most students requested advice and recommendations. Ethics and boundary issues between professional and personal lives are always difficult to consider. Students need to receive guidance from instructors who usually have less experience in social networks. Therefore, the faculty needs to pay more attention to the use of such networks and guide the students as to what is deemed appropriate usage (Guesh et al., 2009).

Conclusion

A number of medical students have made unprofessional online postings. They seem unconcerned with the possible ramifications of sharing personal information in public. The faculty should establish clear institutional guidelines and reasonable strategies for using online networks enhance professional students' responsibility.

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Note

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Notes on contributors

Somchai Tanawattanacharoen, MD, MSc (Medical Education), is the Associate Dean for Student Affairs at the Faculty of Medicine, Chulalongkorn University, Thailand and had the original concept of this study.

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