ETHICS AND SOCIAL MEDIA NETWORKING IN LEBANON: A DOUBLE-EDGED CONCEPTION TO HEALTHCARE PROFESSIONALS

Sarine El Daouk1, Antoine Abu Musa2 and Fadi Abou-Mrad3

Since its inception, social media networking and communication has raised uncertainty and concern among healthcare professionals when treating patients remotely. This study assesses the behavior of physicians that make use of social media platforms, identifying their awareness and defining communication breaches where they occur. A cross-sectional study was conducted by means of an online, self-reported Knowledge-Attitude and Practice (KAP) questionnaire sent to registered physicians (from 80 different specialties) working in Lebanon. A customised web-analytic method was used to collect and analyse data, and a survey was sent to 12,398 physicians, of which 850 (6.8%) responded; of them, 74.4% identified as social media users. This presents ethical questions regarding principles of autonomy, loyalty and justice, while also bypassing safety measures in a manner that could impact negatively upon patients’ quality of life. Through better policies and practices, the negative consequences of using social media could be mitigated by addressing the present ethical issues. Physicians at academic institutions, for example, are recommended to set clear managerial strategies regarding appropriate, safe behavioural conduct for e-communication, and to integrate modernised ethics principles into their curricula that would serve as guidelines for their students.

Subjects: Health & Society; Public Health Policy and Practice; Medicine

ABOUT THE AUTHOR

The division of Medical Ethics at the Lebanese University, Faculty of Medical Sciences was recently founded to lead researchers of multidisciplinary specialties aiming to develop a wider concept and integration process of ethical conduct to health care professionals. Also the group target is to conduct research as to evaluate ethical quality related to health in diverse practices taking into consideration the community benefits. In my capacity as a researcher and being part of this group, I dedicated my study to the use of technology in medicine to reveal any controversies regarding e-communication. My multidisciplinary approach committed to public health sector has deeply enhanced my critical thinking and reasoning.

PUBLIC INTEREST STATEMENT

The main purpose of the study done on the use of social networking by health care professionals entails providing answers to medical questions and information as part of the continuity of care given to patients. It is worth to mention that some medical specialties are more exposed than others when it comes to handling communication throughout these platforms. However, this may heavily affect the medical conduct—in some cases—leading to several controversies; like quality concerns and negative impact on the patient’s health. From a physician point of view, these cutting corner communications promote high interaction and instigate moral support in the doctor-patient relationship. Highlights should focus on the integration of good practices while using these platforms taking into consideration ethical and moral adjustments to ease remote communication.
Keywords: social media networking; ethics; patient; e-communication; healthcare professionals; Lebanon

1. Introduction
Internet use has witnessed remarkable growth in the Middle East, which accounts for around 4% of the global population, thus ranking sixth among world regions with a penetration rate of 57.8% per capita (Internet World Stats—Usage and Population Statistics, 2018). According to the Internet World Stats report of June 2017, over 76% of the Lebanese population (4.5 million out of 6 million individuals) are internet users. Social media networking has influenced many behavioural and lifestyle changes (Moorhead et al., 2013), with the internet industry driving social media adherence (Kuss & Griffiths, 2017). Many people feel safer while being connected through social media networking, but this has also given rise to a variety of emerging health problems, including social media addiction, FOMO (fear of missing out), nomophobia (a severe fear of being without mobile phone contact) and ringxiety (a false perception that one's mobile phone is ringing or vibrating when it is not, sometimes also described as “phantom ringing syndrome”) (Kuss & Griffiths, 2017). These disorders can lead patients to find themselves constantly connected to healthcare professionals, mainly physicians, who are considered to have a strong impact on people's health (Ayoub et al., 2015). Those physicians tend to be contacted via social media networking (Facebook, WhatsApp, YouTube, Viber, Instagram, Twitter and Skype) for medical counseling, treatment and follow ups (Chretien & Kind, 2013; Smailhodzic et al., 2016). Communicating with patients through social media can enhance their quality of care, but special considerations may outweigh their ethical burden, as well as their traceability and juridical implications.

Many articles have shown that the use of social media by medical professionals can lead to breaches of confidentiality and privacy when communicating with patients (Denecke et al., 2015; Ventola, 2014), including identity theft, re-sharing of private information, sharing psychosocial information, and revealing compromising or embarrassing information that could be misused by others. Nevertheless, over 40% of internet users confirm that information found through social media affects the way they deal with their health problems, and more than 60% of physicians underline that social media improved the quality of care delivered to their patients (Campanini, 2018; Goldfarb et al., 2016). The Lebanese Code of Medical Deontology stipulated in Article 8 that “It is not permissible to limit the physician's freedom by giving appropriate information to the patient”. However, it did not tackle the method to be used, nor the guidelines for e-communication within its dimensions (Lebanese Order of Physicians, 2018). Moreover, Article 7 of the same code treating professional secrecy emphasises that confidentiality is not limited to professional issues, but also to public order requirements (Lebanese Order of Physicians, 2018). Our study aims (i) to analyse and assess the traffic of social media use by healthcare professionals, (ii) their knowledge and attitude on ethical matters encountered during their practice, and (iii) to uncover any controversies related in this regard.

2. Materials and methods

2.1. Study design and ethical permission
This study entails a cross-sectional KAP survey based on a systematic review of the uses, benefits and limitations of social media for health communication (Moorhead et al., 2013) conducted during the first two weeks of September 2017. After obtaining the written consent of the Lebanese Orders of Physicians (LOP), 12,398 physicians working throughout Lebanon were targeted to participate in this survey, of which 1,650 were registered participants in LOP Tripoli and 10,748 were registered in LOP Beirut. Participants were invited to complete a customised survey in either French or English about their personal, professional and work characteristics regarding their ethical attitude, and their interactions with patients via social media networking. The questionnaire was used after being validated in both languages. The Institutional Review Board at the University granted us permission to conduct this study.
2.2. Data collection and statistical analysis
A 14 question online survey was designed, focusing mainly on physician demographic characteristics, social media use covering medical practices attitudes and behaviours, and a section addressing healthcare professionals’ opinions regarding benefits and limitations of social media and related ethical matters. The survey was written in both French and English. Testing was done before sending messages to smartphones. A message was sent directly to the physician’s smartphones via a digital media agency and using “Bitly URL shortening code service” (LOPs permission was obtained to access physicians’ phones). Participants could access the online survey after clicking on the message. A customised web platform Curve® was created to host participants’ coded responses. The data collected was analysed after one week of responses. This is the most effective method to collect and analyse scientific data addressing a large population in a short period of time in Lebanon. No exclusion criteria were set. The statistical analysis was conducted on SPSS version 23. Missing values were less than 10%. Variables were analysed using chi-square testing. A p-value of less than 0.05 was considered significant.

3. Results
The final number of participants yielded to 850 physicians out of 12,398 (with a response rate of 6.8%). The cumulative frequency of responses after receiving SMS reached 150 (after 2 hours), 312 (after 4 hours), 462 (after 5 days) and 850 (after seven days). For language selection, 661 (77.7%) used the English version of the survey, and 189 (22.3%) used the French version. 633 (74.4%) of the participants identified as social media users. We found a significant difference in social media users compared to non-users emerging from different medical specialities p < 0.032. The five top ranked heavy users listed stemmed from the following specialties: family medicine (90.9%), orthopedic surgery (88.5%), general surgery (87.1%), obstetricians and gynecologists (85%) and pediatricians (84%)—Table 1. Users were almost equally distributed by age group with no significant difference, p < 0.701. No significant difference was noticed based on gender, although there were three times as many male participants as females. Healthcare professionals practising in Beirut accounted for almost 40% of all participants, with no significant difference of users across different areas—Table 1.

WhatsApp was shown to be the social media channel used most frequently among healthcare professionals in Lebanon, with over 71% of those surveyed using WhatsApp only—Figure 1. It was noted that 57% of healthcare professionals use social media channels on a daily basis, although females were less likely to be daily users than males (48.2% of females vs 61% of males). Almost all of our participants gave medical prescriptions through social media channels, with 320 healthcare professionals positively affirming that they gave medical prescriptions through social media channels and 238 stating that they do, but not all the time. This gives us a sum total of 558 (88.15%) out of 633 social media users. Female participants were slightly more cautious than males while prescribing medication (9.2% of male vs 10.3% of female social media users would not give medical prescriptions via social media). Further analysis related to the medical prescriptions given by healthcare professionals above 64 years old (during their retirement period) showed that 36 (100%) of them gave medical prescriptions via social media and 27 (75%) do but not all the time—Table 2.

Communication was not found to be based on patients’ gender differences, nor on a single-sex communication axis (85.6% of participants reported that their patients were from both sex; of the 17.2% of female participants that did have single-sex communication with their patients, 73% were obstetricians and gynecologists and 11% were pediatricians). Both female and male participants reported that they believed that they may have had a positive impact on their patients while communicating with them via social media channels (42.3% of females and 49.3% of males; p < 0.009)—Table 2.

The most commonly reported goal of social media use by participants of both genders was to provide answers to the medical questions of patients (72% vs. 68.2%). However, males and females differed on secondary priorities, with males favouring the providing of health information on a range of conditions (38.1% vs. 27.7%) while females preferred to facilitate a dialogue between patients and health professionals (36% vs. 41.2%). Performing online consultations
accounted for 20% of users’ aims across both genders, and around 60% of all users reported that the benefits to their patients were the increased interaction and support, and the sharing of information between patients and medical professionals. However, approximately 20% of male users and 14% of female users recognised that social media might have a potential to influence patient health. Almost half of the users did acknowledge social media as a quality concern and, although 60% of participants said they did not perceive a lack of privacy or confidentiality while

| Demographic Characteristics | Total (N) | Social media users (%) | P-value users vs. non-users |
|----------------------------|----------|------------------------|----------------------------|
| **Specialties most using social media** |          |                        | <0.032                     |
| Family medicine            | 33       | 90.9                   |                            |
| Orthopaedic surgery        | 35       | 88.5                   |                            |
| General surgery            | 39       | 87.1                   |                            |
| Obstetrics and Gynecology  | 67       | 85.0                   |                            |
| Pediatrics                 | 75       | 84.0                   |                            |
| Dermatology                | 26       | 80.7                   |                            |
| Gastroenterology           | 31       | 80.6                   |                            |
| Cardiology                 | 51       | 78.4                   |                            |
| Otorhinolaryngology        | 27       | 77.7                   |                            |
| Ophthalmology              | 28       | 75.0                   |                            |
| General medicine           | 59       | 69.4                   |                            |
| Others                     | 347      | 71.7                   |                            |
| **Total**                  | **818**  | **77.3**               |                            |
| **Age group in years**     |          |                        | <0.701                     |
| <30                        | 55       | 83.6                   |                            |
| 31-40                      | 185      | 76.2                   |                            |
| 41-50                      | 169      | 80.4                   |                            |
| 51-60                      | 224      | 76.7                   |                            |
| >61                        | 155      | 77.4a                  |                            |
| **Total**                  | **788**  | **78.0**               |                            |
| **Gender**                 |          |                        | <0.322                     |
| Male                       | 608      | 78.4                   |                            |
| Female                     | 205      | 75.1                   |                            |
| **Total**                  | **813**  | **77.6**               |                            |
| **Area of Practice**       |          |                        | <0.628                     |
| Beirut                     | 332      | 76.5                   |                            |
| Mount Lebanon              | 220      | 80.4                   |                            |
| North                      | 108      | 80.5                   |                            |
| South                      | 88       | 73.8                   |                            |
| Bekaa                      | 54       | 75.9                   |                            |
| **Total**                  | **802**  | **77.8**               |                            |
using social media channels, they did note the potential for risks associated with communicating harmful or incorrect advice (53% of males and 65.6% of females). Only 9.2% of male physicians believed that certain social media technologies may be more effective in changing the behaviour of users. More than half of those surveyed believed that the use of social media may in fact cause patients to avoid visiting a healthcare professional in person—Table 3.

Table 2. Medical practices of health care professionals in Lebanon while using social media channels

| Medical practices of HCPs while using SM* | (%) Male | (%) Female |
|-----------------------------------------|---------|-----------|
| **How often HCPs use SM**               |         |           |
| Daily                                   | 61      | 48.2      |
| Weekly                                  | 21.2    | 23.5      |
| Monthly                                 | 4.5     | 5.3       |
| Less Often                              | 13.2    | 22.9      |
| **Medical Prescriptions given via SM by HCPs** |       |           |
| Yes                                     | 52.9    | 47.7      |
| No                                      | 10.3    | 9.2       |
| Not all the time                        | 36.8    | 43.1      |
| **Patient’s gender via SM communication** |       |           |
| Male                                    | 0.4     | 0         |
| Female                                  | 7.3     | 17.2      |
| Both sex                                | 92.3    | 82.8      |
| **Type of HCPs impact on patients via SM use** |       |           |
| No impact                               | 18.1    | 19.5      |
| Negative impact                         | 3.8     | 5.4       |
| Positive impact                         | 49.3    | 42.3      |
| No opinion                              | 28.9    | 32.9      |

*HCPs—Health Care Professionals, SM—Social Media
Table 3. Ethical concerns via the use of social media channels by health care professionals in Lebanon

| Opinion of health care professionals users of social media | Male | Female |
|-----------------------------------------------------------|------|--------|
| The aim of using SM by HCPs*                             |      |        |
| -Provide health information on a range of conditions     | 177  | 38.1   |
| -Provide answers to medical questions                     | 334  | 72     |
| -Facilitate dialogue between patient and Health professionals | 167  | 36     |
| -Collect data on patient experiences and opinions          | 56   | 12.1   |
| -Used for health intervention, health promotion, and health education | 50   | 10.8   |
| -Reduce stigma                                             | 15   | 3.2    |
| -Provide online consultation                               | 92   | 19.8   |
| Existing patients' benefits                               |      |        |
| -Increase interactions and support                        | 277  | 63.2   |
| -More available, shared, and tailored information          | 258  | 58.9   |
| -Potential to influence health policy                      | 91   | 20.8   |
| Limitations & concerns                                     |      |        |
| -Quality concern                                           | 203  | 45.4   |
| -Lack of confidentiality & privacy                         | 182  | 40.7   |
| -Risks associated with communicating harmful or incorrect advice | 237  | 53     |
| Certain social media technologies may be more effective in behavior change than others | 41   | 9.2    |
| -Negative health consequences                             | 89   | 19.9   |
| -Social network may act as a deterrent for patients from visiting health professionals | 228  | 51     |

*HCPs—Health Care Professionals, SM—Social Media

4. Discussion
In this paper, major healthcare professionals’ ethical concerns on social media use were investigated. The survey response rate reached 6.8%. A randomised trial on a different mode of surveys using digital, physical and mixed methods showed that the characteristics of online respondents are more similar to the population (Scott et al., 2011). Compared to other Arab regions users of social media, WhatsApp channels in Lebanon are found to be top ranked compared to UAE and KSA (98% vs 95%), 86% in Qatar, 74% in Egypt and 4% in Tunisia (Dennis et al., 2016). Similarly to the general population, 74.4% of healthcare professionals that were surveyed make use of social media for professional purposes, while other studies revealed a number of 67% (Cooper et al., 2012). However, no correlation was found between social media usage and either age, gender or practicing area. It is worth mentioning that, in a study on physicians use of social media and web-based communication technologies, a logistic regression showed that the most consistent predictors of social media usage proved to be maleness, youth and had to be taught hospital privileges; the odds ratio was 3 to 4 times higher for younger physicians aged below 35 years compared to those who were 55 years and above. Moreover, the three major specialties using these communication platforms were family medicine, internal medicine and pediatricians, in contrast to our study, where family medicine was followed by orthopaedic surgery and general surgery (Cooper et al., 2012).
Other surveys on social media use by physicians had a contradictory point of view regarding the appropriate use of social media by healthcare professionals. In a study, 21.2% of the participants found that physicians’ use of social media was inappropriate (Brown et al., 2014), 68% do not think it is ethical to communicate with patients via social media (Bosslet et al., 2011). Our study revealed that more than half of our respondents showed quality concern issues related to these communications and the presence of associated risks regarding exchanging harmful or incorrect advice. Findings prove that more than half of healthcare professionals give medical prescriptions using social media. We concluded that patients had benefited from medical treatment as part of beneficence, but the medical approach cannot be holistic through these communications. Therefore, non-maleficence remains an issue to maintain. We foresee major limitations regarding patients’ preferences and respect of autonomy, as their right to choose may not be respected to the extent of ethics, and patients might not be informed of treatment benefits or risks. Paternalism becomes apparent as a major concern in the care decision. Loyalty and fairness may also be affected. Decisions about treatment tend to be influenced by external factors such as family issues, finances and economic concerns. Is the patient unable to cooperate with medical treatment? These ethical questions might seriously impact the patient’s quality of life.

The American College of Physicians and the Federation of State Medical Boards published a position paper stressing the importance of creating institutional policies regarding the use of digital media by healthcare professionals. Ethical and professional education should be undertaken in a respectful and safe environment for both patients and physicians, and standards of professionalism should be maintained in all patient-physician relationships. Nevertheless, social media offers an interactive platform for physicians and patients that has had a positive impact on the health community (Farnan et al., 2013). Electronic communication should always be used after having a patient’s consent, and this should be documented in the patient’s medical record (Farnan et al., 2013). Our study showed that almost half of our respondents were certain about the positive impact social media may have had on their patients. A qualitative study evaluating physicians’ use of social media revealed many comparative barriers, where communication had no specific rules or boundaries. While some physicians found that it was not problematic to fit social media into their schedules, others had different views about time spent on social media and found it to impede their patients’ care (Campbell et al., 2016). On the other hand, our study showed that 54.9% of healthcare professionals use social media to communicate with their patients on a daily basis, and half of them found that social media deterred their patients from making visits in person.

Those healthcare professionals that have used social media as a platform to provide medical answers rather than implementing online consultation should be aware of the communication errors that could be prevented in telephone medicine via social media (Reisman & Brown, 2005). Further institutional training, involving the Lebanese Order of Physicians and medical faculties, (Mamlin & Tierney, 2016) and recommendations on social media communication management strategies should be ensured, focusing on safe methods of delivering remote medical prescriptions, lab test results and appropriate support for patients during their decision making process regarding treatments, while also covering matters of best practice as it pertains to dealing with sensitive private information (Travaline et al., 2005) by integrating e-communication concepts and updates into the principles of ethics within the curricula for those studying to become healthcare professionals, (Schröder-Bäck et al., 2014) allowing the use of new ethics models such as ETHICS and RESPECT (ACOG, 2014; Ling & Hauck, 2018; Mostow et al., 2010).

This is the first national study on healthcare professionals’ use of social media that reflects ethical consideration and, as such, it does have limitations related to its cross-sectional design and reliance on physicians’ self-reporting of social media conduct, causality and temporal relations that cannot necessarily be inferred from the results. However, we are aware of the possible biases that could arise from this study’s methodology; a selection bias is possible as some physicians might not have paid attention to the messages sent containing the survey link. Systematically, active social media users are more likely to have been engaged in this study than non-users. The possibility of non-respondents and refusal bias cannot be neglected because of the sensibility of the treated subject related, mainly to the current stream of social media fetching medical errors in Lebanon. Poor network connectivity might be a limiting
factor on potential participants accessing the online survey. Nevertheless, these biases did not affect our results as refusal was excluded, and missing values were less than 10%. Information bias does exist since the topic of our study was social media as it relates to healthcare professionals’ private practice, and some reservations may have been taken, with participants not fully and correctly responding to questions. However, in the absence of any other exhaustive studies in Lebanon, this data provides a crucial starting point for such a topic; it urges healthcare professionals to adopt proper ethical considerations and awareness while communicating with patients through social media.

5. Conclusion
This paper outlined the frequency of healthcare professionals’ use of social media networking in Lebanon, and the major actions to be taken towards enhancing patient-physician communication through such channels. Most of the channels are listed in association with physicians’ specialties, gender and area of practice. Medical opinions, benefits, limitations, and concerns of social media users have been reflected. Medical and legal responsibilities of healthcare professionals towards their patients were investigated to mitigate any negative consequences, and recommendations were provided to set institutional communication policies on the management of social media use, so as to integrate the e-communication concept with best practices, as well as any updated principles of ethics in the new curricula.

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Author details
Sarine El Daouk
E-mail: sdaouk@ul.edu.lb  
ORCID ID: http://orcid.org/0000-0002-1373-4551
Antoine Abu Musa
E-mail: oum06@aub.edu.lb  
Fadi Abou-Mrad
E-mail: fadiaaboumrad@gmail.com  
ORCID ID: http://orcid.org/0000-0001-5800-6120

1 Division of Medical Ethics, Faculty of Medical Sciences, Lebanese University, Beirut, Lebanon.  
2 President of the Lebanese Society of Obstetrics and Gynecology, Lebanese Order of Physician, Beirut, Lebanon.

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