Joint Bone Spine 85 (2018) 265–266

Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en

Editorial

e-Health, social media, and rheumatology: Can they get along?

ARTICLE INFO

Keywords:
Social media
Internet
Rheumatology
e-Health
Communication
Teaching
Research
Therapeutic patient education

The digital whirlwind is sweeping radical changes into all fields of human activity including economics, politics, production, and business. No area is spared by this revolution. Similar to the classical opposition between pre- and post-industrial, a contrast has emerged between the pre-digital and post-digital eras. Performance, efficiency, productivity, and yield have metamorphosed into powerful catchwords under the effect of new virtual tools. These technological changes have strongly impacted all the areas of medicine, including rheumatology [1]. The Internet, and now also the social media, are profoundly affecting our approach to medicine, other physicians, and patients. Whether this is good or bad news is a major issue.

A time-consuming activity of medical students and residents in the pre-digital era consisted in perusing dozens of Index Medicus volumes in search of articles containing crucial information on phenomena, diseases, or pathophysiological mechanisms, an endeavor that often ended in failure. The weary trudge through dusty bookstacks is no more. Google provides the desired information, often in far more complete form, in a tiny fraction of a second. Every student group has a Facebook network for communicating dates of events ranging from lectures to social gatherings. Facebook also serves as a forum where students post questions and receive replies from other network members or even, in some cases, from their teachers. What's not to like? Greater engagement among students is associated with higher grades [2]. The smartphone is now a key component of the paraphernalia of the young rheumatologist [3], who can use the ever-increasing number of innovative applications to delve into a subject in a personalized manner and to interact with others via the social media integrated in the apps. Acquiring the thorough understanding of anatomy that is so vital to the comprehension of diseases and procedures in rheumatology is now child's play [4]. The ability to retrieve relevant illustrations in an instant allows teachers to illustrate their thinking with photographs, imaging studies, and diagrams, while freeing up time to focus on teaching technique, another field of burgeoning digital innovation [5].

The greatest progress, however, provided by the digital revolution lies in the area of communication: communication among physicians, communication between physicians and patients, and communication among patients. The huge popularity of patient forums indicates a high level of demand. Patients are no longer satisfied by the information they receive from their doctors. They want to know about the experience of patients who have the same disease. This sharing may result in exacerbated anxiety (a phenomenon known as cyberchondria) [6] but also positions the patient within a community and counterbalances the more passive nature of the interaction with the physician [7]. When selected with discernment, Internet sites and social media can improve self-management. In rheumatology, self-management interventions that use social media to optimize their effects are now available [8].

The even more recent proliferation of digital media health tools can be expected to benefit the management of rheumatology patients. For instance, smartphone apps for the self-evaluation of rheumatoid arthritis are now available in growing numbers, although their quality still needs improvement [9]. The direct transmission of medical data from wireless devices carried by the patient to the physician via an electronic interface that sorts through the continuous flow of information is being evaluated in several fields, among which cardiology is the trailblazer [10]. Recently reported results in RA are promising [11]. In addition, many digital tools are available for encouraging an increase in physical activity by monitoring the number of steps taken or the distance traveled on foot or while cycling, for instance. These tools can support the advice given by rheumatologists to remain physically active as a means of preventing numerous bone and joint diseases. The greater availability of data resulting from the use of wireless devices is increasing the level of resolution at which health can be managed, creating the potential for high-definition medicine, one benefit of which may be better prevention of chronic disease [12].

Rheumatologists now have access to a rapidly expanding landscape of continuing medical education tools. Thousands of courses (including massive open online courses or MOOCs [13]), symposiums, seminars, and journal clubs (discussion groups that critically evaluate recent scientific articles) are available to them in a few clicks, instead of being reserved for a select few. Social media such as Twitter can serve to initiate online discussions led by the author of an original article (e.g., @RheumJC). Simply sending article

https://doi.org/10.1016/j.jbspin.2017.12.007

references via social media can help authors to disseminate their work and sometimes generates spirited discussions that improve the understanding and implementation of the findings. New bibliometric tools go beyond the impact factor by considering the amount of social media activity generated by an article (e.g., Altmetrics [14]). Plagiarism checkers have also been developed (although they remain imperfect, as they detect phrases used as part of specific author style and sometimes lead to unwarranted accusations on social media).

The world of research has of course taken possession of these new technologies. The billions of data points that circulate continuously on social media can serve to recognize new risk factors, to develop new outcome prediction tools, and to identify unexpected side effects of medications. The PatientsLikeMe site, for instance, has established a scientific committee tasked with developing research projects based on data supplied voluntarily by patients [15]. Monitoring selected keywords in Tweets may detect outbreaks of infectious diseases before physicians are aware of them, as shown for the 2009 H1N1 influenza outbreak [16]. However, the reliability of this approach remains debatable, and Google Flu Trends, designed to detect influenza outbreaks based on counts of Google searches, was shut down due to overestimation of numbers of cases [17].

There is a price to pay for this surge of digital progress. In the pre-digital era, the physician's eyes were focused on the patient during visits, and a host of subliminal messages were exchanged by gaze and body language. Now, the physician is often looking instead at a brightly lit device, whether a smartphone or a computer. Gaze, attention, and vigilance — the channels for empathy — are now captives of technology. Humanity may lose out to performance. Another major concern with social media is confidentiality. Patients are entitled by law to the protection afforded by patient-physician privilege, which is the foundation of mutual trust. The ease with which social media can be used may put patient-physician privilege at risk and constitutes punishable malpractice. The ability of insurers to access personal health information may have devastating consequences for patients [18]. Many hospital physicians and medical students have already been sued by patients for divulging confidential information [19]. Healthcare institutions are increasingly developing social media guidelines for their healthcare staff to avoid further litigation [1]. Physicians may be the target of unwarranted allegations, whose amplification through health forums may damage their reputation [20].

In conclusion, as with all revolutions, integrating the transformations of the post-digital age will require time. The members of generation Z (born after 1995) have been using smartphones since the cradle and will adapt more naturally than their older counterparts. The "good old days" is an alien concept to them. They are probably right: electronic communication was often viewed at first as narrowing our focus to the computer screen, thereby causing isolation. On the contrary, the emergence of social media and development of miniaturization have opened up new vistas of communication, particularly in the area of patient-physician relationships. Out task now is to define their boundaries.

Disclosure of interest

The authors declare that they have no competing interest.

References

[1] Berenbaum F. The social (media) side to rheumatology. Nat Rev Rheumatol 2014;10:314–8.
[2] Diug B, Kendal E, Ilic D. Evaluating the use of twitter as a tool to increase engagement in medical education. Educ Health 2016;29:223–30.
[3] Nikiphorou E, Studenic P, Ammitzboll CG, et al. Social media use among young rheumatologists and basic scientists: results of an international survey by the emerging EULAR Network (EMEUNET). Ann Rheum Dis 2017;76:712–5.
[4] https://itunes.apple.com/fr/app/essential-anatomy-5/id596684220?mt=8.
[5] Akresh-Gonzales J. The flipped classroom in medical school and residency. NEJM Knowledge; 2017.
[6] Doherty-Torstrick ER, Walton KE, Fallon BA. Cyberchondria: parsing health anxiety from online behavior. Psychosomatics 2016;57:390–400.
[7] Rodgers S, Chen Q. Internet Community Group Participation: psychosocial benefits for women with breast cancer. Comput Media Commun 2005;10:00, http://dx.doi.org/10.1111/j.1083-6101.2005.tb00268.x.
[8] Li LC, Townsend AF, Badley EM. Self-management interventions in the digital age: new approaches to support people with rheumatologic conditions. Best Pract Res Clin Rheumatol 2012;26:321–33.
[9] Grainger R, Townsley H, White B, et al. Apps for people with rheumatoid arthritis to monitor their disease activity: a review of Apps for best practice and quality. JMIR Mhealth Uhealth 2017;5:e7.
[10] Topol E. The wireless future of medicine; 2009 [Available from: https://www.ted.com/talks/eric_topol_the_wireless_future_of_medicine].
[11] van Riel P, Alten R, Combe B, et al. Improving inflammatory arthritis management through tighter monitoring of patients and the use of innovative electronic tools. RMD Open 2016;2:e000302.
[12] Torkamani A, Andersen KG, Steinhubl SR, et al. High-definition medicine. Cell 2017;170:828–43.
[13] Liyanagunawardena TR, Williams SA. Massive open online courses on health and medicine: review. J Med Internet Res 2014;16:e191.
[14] Warren HR, Raison N, Dasgupta P. The rise of altmetrics. JAMA 2017;317:131–2.
[15] Wicks P, Massagli M, Frost J, et al. Sharing health data for better outcomes on patients like me. J Med Internet Res 2010;12:e19.
[16] Chew C, Eysenbach G. Pandemics in the Age of Twitter: content analysis of Tweets during the 2009 H1N1 outbreak. PLoS One 2010;5:e14118.
[17] Lazer D, Kennedy R, King G, et al. The parable of Google Flu: traps in big data analysis. Science 2014;343:1203.
[18] Osakwe M. Do insurance companies look at your social media profiles?; 2015 [Available from: http://www.nextadvisor.com/blog/2015/07/06/insurance-companies-social-media-profiles/].
[19] George DR, Rovniak LS, Kraschnewski JL. Dangers and opportunities for social media in medicine. Clin obstet Gynecol 2013;56:453–62.
[20] Abdaoui A, Aze J, Bringay S, et al. E-patient reputation in health forums. Stud Health Technol Inform 2015;216:137–41.

Francis Berenbaum [a,b,c,*]
[a] *Service de rhumatologie, hôpital Saint-Antoine, AP–HP, 184, rue du faubourg Saint-Antoine, 75012 Paris, France*
[b] *Sorbonne Universités, DHU i2B, 75012 Paris, France*
[c] *Inserm UMRS_938, 75012 Paris, France*

* Service de rhumatologie, hôpital Saint-Antoine, AP–HP, 184, rue du faubourg Saint-Antoine, 75012 Paris, France.
E-mail address: francis.berenbaum@aphp.fr

Accepted 25 October 2017
Available online 13 December 2017