



Social Media as Tools to Study Dietary Habits of Patients with Rheumatic Diseases: Learning from Relevant Work on Inflammatory Bowel Diseases

Xenophon Theodoridis,^{1,2} Stefanos Pittas,² Dimitrios P. Bogdanos,^{1,3} Maria G. Grammatikopoulou¹

¹Department of Rheumatology and Clinical Immunology, Faculty of Medicine, School of Health Sciences, University of Thessaly, Larissa, Greece, ²Department of Medicine, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece, ³Division of Transplantation Immunology and Mucosal Biology, MRC Centre for Transplantation, King's College London Medical School, SE5 9RS, London, United Kingdom

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Social media platforms have become a part of our lives, as users spend on average two and a half hours per day. Facebook, Instagram, and Twitter consist the most popular social media channels.¹ Nowadays, more and more people are signing in to social media in order to search for medical and nutritional advices about their condition.² Approximately 2/3 of Americans use social networking applications.³ Today, Twitter has become one of the most well-known social media platforms, with patients and health professionals exchanging opinions concerning healthcare.⁴

Due to the constantly increasing number of social media users, many scientific journals, conferences and medical societies have created accounts to propagate their research, education, events, and news, respectively.⁵⁻⁷ Currently, there are 48 twitter accounts concerning rheumatology, disseminating up-to-date recommendations and related events.⁷ However, currently, the number of tweets simultaneously containing the hashtags diet and rheumatic diseases does not exceed 20.

A recent study⁸ provides a unique opportunity to understand patients' opinions concerning treatment options,

Corresponding Author:

Xenophon Theodoridis
Department of Medicine, School of Health
Sciences
Aristotle University of Thessaloniki
Thessaloniki, Greece
E-mail: xtheodoridis@auth.gr

transforming them to valuable players in decision making. The results of the study indicated that bowel disease (BD) patients turn to twitter to discuss disease symptoms, management

options - including nutrition therapy -, and BD-specific comorbidities. As far as nutrition-related discussions are concerned, they tend to be focused on gluten-free diet (GFD), and dietary supplements, including probiotics and vitamin D. Furthermore, dietary interventions receive more retweets and favorites than pharmacotherapy and non-dietary interventions, making them appealing to the patient community.

Patients' concern about their disease-related symptoms can be better reflected through social media. The severity of their symptoms, according to number of tweets, seems to differ from the objective clinical signs and symptoms that health professionals consider of high priority and examine in their daily clinical practice.⁹ The search of non-pharmacological approaches by social media users, indicate the lack of information regarding alternative treatment options than can be used as add-on therapies. Moreover, a recent study¹⁰ showed that direct-to-patients advertisements increase the posts, mainly regarding concerns about safety of the advertising medication, on social media platforms, reflecting the patients desire to be aware of every available treatment alternative.¹¹ In patient-centered disease management, patients' perspectives concerning their disease should be taken into consideration in the treatment algorithm, which will result in higher levels of medication adherence, satisfaction, and quality of life.^{12,13}

Analyzing patients' social media posts, provides data regarding the issues of concern on a patient's perspective. The study of Pérez-Pérez and colleagues⁸ showed that those suffering from BD are interested in understanding

the role of GFD as a possible treatment option. However, clinical practice guidelines¹⁴ regarding inflammatory bowel disease (IBD) management, incorporate recommendations suggesting that there is insufficient evidence to support the limitation of wheat and gluten free dietary intervention in order to ameliorate disease severity or patient symptoms. Moreover, to the best of our knowledge, no randomized controlled trials (RCTs) have been published assessing the effectiveness of adherence to a GFD in IBD. On the other hand, a recent cross-sectional study¹⁵ showed that patients with IBD following a GFD report improved gastrointestinal symptoms. This reveals the existence of a gap between evidence-practice and patient perceived effectiveness, indicating the need for the performance of relevant RCTs to update clinical guidelines and keep up with patient needs and interests. On the other hand, researchers can use social media platforms not only for sharing news, but also for gathering information regarding patients' demographics characteristics, dietary habits, or for recruiting patients for either observational, or experimental studies.^{1,16} In nutrition research in particular, the use of social media has been widely exploited by researchers to record nutrition outcomes¹⁷ and promote healthy eating.^{18,19}

Learning from the work performed by Pérez-Pérez and colleagues,⁸ researchers can exploit social media to collate information about the dietary habits of patients with rheumatic diseases, as evidence shows that dietary habits of apparently healthy controls differ from that of patients with rheumatic diseases.²⁰ When understanding the dietary habits of patients with rheumatic diseases, health professionals can recommend specific lifestyle modifications by eliminating unhealthy food choices and replacing them with food items shown to reduce disease severity, such as seafood, vegetables, or fruits.²¹ For example, a recent study suggested that intermittent fasting can ameliorate psoriatic arthritis severity, defined by psoriatic arthritis disease activity scores.²² A review of the literature performed by Stamostergiou et al.,²³ showed that adherence to the Mediterranean dietary pattern appears promising for the management of patients with hyperuricemia and/or gout.

In conclusion, incorporating social media in health research has many advantages and may even help in promoting evidence-based medicine.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Arigo D, Pagoto S, Carter-Harris L, Lillie SE, Nebeker C. Using social media for health research: Methodological and ethical considerations for recruitment and intervention delivery. *Digit Heal* 2018;4:205520761877175.
2. Brady RRW, Chapman SJ, Atallah S, Chand M, Mayol J, Lacy AM, et al. #colorectalsurgery. *Br J Surg* 2017;104(11):1470-6.
3. Reuter K, Danve A, Deodhar A. Harnessing the power of social media: how can it help in axial spondyloarthritis research? *Curr Opin Rheumatol* 2019;31(4):321-8.
4. Pershad Y, Hangge P, Albadawi H, Oklu R. Social Medicine: Twitter in Healthcare. *J Clin Med* 2018;7(6):121.
5. Tan AL. I039 Promoting rheumatology research through social media. *Rheumatology* 2019;58(Supplement_3).
6. Berenbaum F. The social (media) side to rheumatology. *Nat Rev Rheumatol* 2014;10(5):314-8.
7. Zimba O, Radchenko O, Strilchuk L. Social media for research, education and practice in rheumatology. *Rheumatol Int* 2020;40(2):183-90.
8. Pérez-Pérez M, Pérez-Rodríguez G, Fdez-Riverola F, Lourenço A. Using twitter to understand the human bowel disease community: Exploratory analysis of key topics. *J Med Internet Res* 2019;21(8):e12610.
9. Casellas F, Herrera-de Guise C, Robles V, Navarro E, Borrueal N. Patient preferences for inflammatory bowel disease treatment objectives. *Dig Liver Dis* 2017;49(2):152-6.
10. Curtis JR, Chen L, Higginbotham P, Nowell WB, Gal-Levy R, Willig J, et al. Social media for arthritis-related comparative effectiveness and safety research and the impact of direct-to-consumer advertising. *Arthritis Res Ther* 2017;19(1):48.
11. Oostendorp LJ, Ottevanger PB, Van Der Graaf WTA, Stalmeier PF. Patient information desire in actual decision making for advanced cancer treatment: Do doctors know their patients? *J Clin Oncol* 2012;30(15_suppl):9036-9036.
12. Schoenthaler A, Rosenthal DM, Butler M, Jacobowitz L. Medication adherence improvement similar for shared decision-making preference or longer patient-provider relationship. *J Am Board Fam Med* 2018;31(5):752-60.
13. Gualano MR, Bert F, Passi S, Stillo M, Brescia V, Scaioli G, et al. Could shared decision making affect staying in hospital? A cross-sectional pilot study. *BMC Health Serv Res* 2019;19(1):174.
14. Levine A, Rhodes JM, Lindsay JO, Abreu MT, Kamm MA, Gibson PR, et al. Dietary Guidance for Patients with Inflammatory Bowel Disease from the International Organization for the Study of Inflammatory Bowel Disease. *Clin Gastroenterol Hepatol* 2020; S1542-3565(20)30185-3.
15. Herfarth HH, Martin CF, Sandler RS, Kappelman MD, Long MD. Prevalence of a gluten-free diet and improvement of clinical symptoms in patients with inflammatory bowel diseases. *Inflamm Bowel Dis* 2014;20(7):1194-7.
16. Chau MM, Burgermaster M, Mamykina L. The use of social media in nutrition interventions for adolescents and young adults—A systematic review. *Int J Med Inform* 2018;120:77-91.
17. Klassen KM, Douglass CH, Brennan L, Truby H, Lim MSC. Social media use for nutrition outcomes in young adults: a mixed-methods systematic review. *Int J Behav Nutr Phys Act* 2018;15(1):70.
18. Strømme H, Mosdøl A, Nordheim L, Vist G. Effects of Using Social Media in Health Awareness Campaigns to Promote Healthy Lifestyle Habits [Internet]. NIPH, Oslo; 2014.
19. Takeuchi T, Fujii T, Ogawa K, Narumi T, Tanikawa T, Hirose M. Social Media to Improve Eating Habits using Others Evaluations. *Trans Japanese Soc Artif Intell* 2015;30(6):820-8.
20. Standley KN, Gjertsson I, Winkvist A, Lindqvist HM. Dietary Habits of Women with Rheumatoid Arthritis Differ from that of Women without the Disease: Results from a Population-Based Study. *J Rheum Dis Treat* 2019;5:072.
21. Murakami I, Murakami K, Hashimoto M, Tanaka M, Ito H, Fujii T, et al. Intake frequency of vegetables or seafoods negatively correlates with disease activity of rheumatoid arthritis. *PLoS One* 2020;15(2):e0228852.
22. Venetsanopoulou AI, Voulgari P V, Drosos AA. Fasting mimicking diets: A literature review of their impact on inflammatory arthritis. *Mediterr J Rheumatol* 2019:201-6.
23. Stamostergiou J, Theodoridis X, Ganochoriti V, Bogdanos D, Sakkas L. The role of the Mediterranean diet in hyperuricemia and gout. *Mediterr J Rheumatol* 2018;29(1):21-5.