Editorial

Remission in Gout: Concepts From a Patient Perspective

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Any human who has ever experienced an acute gout flare understands how painful and debilitating this condition is. Unfortunately, due to the episodic nature of these acute flares that occur randomly due to transient fluctuations in urate levels, patients often underreport these attacks. This turns into a tragedy—patients are left untreated and develop chronic gouty arthritis where pain-free periods are infrequent and joint damage is abundant. The holy grail in clinical trials, whether acute or chronic gout, has been to understand the various nuances of adherence because we know that it leads to prevention and perhaps remission: how long can a patient stay flare free, how do we quantify it, and what measures should we use?

Despite the increase in the number of gout cases,[1] the disease is equally mismanaged in primary care and the rheumatology subspecialty. This is evident in the literature, with suboptimal dosing of urate-lowering drugs, intolerance to therapy, or poor patient compliance. Guidelines across the globe have highlighted the gaps in care and the poor quality of life. Gout is considered the most treatable arthritis in the Western World, with the pathophysiology directly related to uric acid metabolism and effective medications available to treat both acute episodes and chronic tophaceous gout.[2,3] Prior studies have shown that treatment of chronic gout leads to improvement in patient-reported outcomes,[4] and inadequate control has a substantial economic effect on the patient, employer, and society.[5,6] Interestingly, gout has the lowest adherence to medications (38%) across common chronic conditions such as hypertension, osteoporosis, and diabetes mellitus. Further, demographics and poor adherence to chronic therapy[7,8,9] are considered important attributes in developing tophaceous gout.

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Focus groups conducted among patients with gout and their physicians have shown a variety of barriers that are perceived as a hindrance but were easily circumvented to accomplish the successful treat-to-target strategies established in gout.[10,11] A conceptual model (Figure 1) that integrates (1) modifiable factors, including behavioral, psychosocial, clinical, and patient and provider factors; and (2) nonmodifiable aspects, including genetics and metabolic factors, is important. However, patient factors (such as demographics, nonadherence, diet, poor knowledge regarding gout) and healthcare factors (suboptimal dosing of urate-lowering therapy [ULT], gaps in disease education), along with associated comorbidities, contribute more toward this disparity in attaining therapeutic goals for our patients.

In this issue of *The Journal of Rheumatology*, te Kampe and colleagues have made a commendable effort to put some of these patient-centric issues into perspective for us.[12] This cross-sectional survey was conducted in 14 countries across Europe in 2018, utilizing an online survey. Patients were primarily recruited from open panels of an online market research organization (Dynata and Toluna), patient associations, and from rheumatologists or general practitioners (GP) who were aware of the study and could hand out leaflets to potential patients. The intention was to assess health- and patient-centered outcomes in gout across Europe and explore differences at multiple strata including patient-, care-, and country-level characteristics associated with these outcomes. They attempted to clarify the differences between patient-reported health outcomes and patient-centered outcomes, such as satisfaction with treatment and patients' personal treatment goals. Outcomes included recurrence of gout flares ($\geq$ 3 gout flares and $\geq$ 1 gout flare in the past year); self-reported effect of gout on mental and physical health; missed work (for those employed, $\geq$ 1 workday missed in past year due to gout); patients' satisfaction with current medication; and patients' unaddressed treatment goals. The unaddressed treatment goals were calculated as the sum of the treatment goals that patients indicated were relevant to them, but that were not addressed by their physician. Most of the 1029 patients were diagnosed by a GP and 70% reported $\geq$ 1
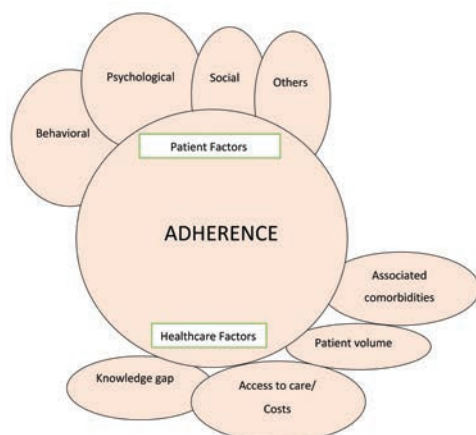
Figure 1. Conceptual model integrating patient and healthcare factors.

gout flares in a 12-month period; 32% had ≥ 3 flares. In addition, 43% of patients reported an effect on mental and physical health and 52% of those employed missed ≥ 1 working day due to gout in the past year. Nevertheless, 80% of the patients were satisfied with their current medication and patients expressed at least 1 unaddressed treatment goal. As expected, gout flares contributed substantially to worse health and patient-centered outcomes. Similarly, being on current ULT was consistently associated with better health and patient-centered outcomes, except for unaddressed treatment goals. Of note, the patients from wealthier countries reported more frequent gout flares.

However, it is difficult to assess the effect of care on patients' experiences (eg, unaddressed goals, satisfaction) or speculate about the relationship between these experiences and health outcomes in a cross-sectional study. Although patient recruitment and selection was comparable, a differential selection bias can be difficult to exclude. Therefore, is it pragmatic to draw meaningful comparisons between health and patient-centered outcomes of patients with gout in different countries from an online survey without more information about their general health and socioeconomic status? Perhaps this is a goal to incorporate and pursue as a future direction in gout studies.

Global gout prevalence has doubled from 1990 to 2017, with 41.2 million prevalent cases of gout in the world, 7.1 million incident cases per year, and nearly 1.3 million years living with disabilities.[13] On average gout patients spend 35 days of a year in a state of flare.[13] Regional point prevalence varies greatly, from 4.6-fold in Australasia to the lowest prevalence in Central Latin America, as does socioeconomic status.[14] Mapping these acute attacks is so vital to the challenge of understanding and analyzing the occurrence of gout flares.[14] And where better to seek these answers than from the key stakeholder in this story—our gout patient? Of course, questions remain unanswered about

patient factors or system/access issues that correlate with educational needs required to ensure adherence to therapy. Regular longitudinal assessments of satisfaction with gout management in a daily practice cohort can provide more insight into factors contributing to satisfaction and its causal relation with health outcomes.

REFERENCES

1. Chen-Xu M, Yokose C, Rai SK, Pillinger MH, Choi HK. Contemporary Prevalence of gout and hyperuricemia in the United States and decadal trends: the National Health and Nutrition Examination Survey, 2007-2016. Arthritis Rheumatol 2019; 71:991-9.
2. Burns CM, Wortmann RL. Gout therapeutics: new drugs for an old disease. Lancet 2011;377:165-77.
3. Terkeltaub R. Update on gout: new therapeutic strategies and options. Nat Rev Rheumatol 2010;6:30-8.
4. Singh JA, Taylor WJ, Simon LS, et al. Patient-reported outcomes in chronic gout: a report from OMERACT 10. J Rheumatol 2011;38:1452-7.
5. Zleik N, Elfishawi MM, Kvrgic Z, et al. Hospitalization increases the risk of acute arthritic flares in gout: a population-based study over 2 decades. J Rheumatol 2018;45:1188-91.
6. Lim SY, Lu N, Oza A, et al. Trends in gout and rheumatoid arthritis hospitalizations in the United States, 1993-2011. JAMA 2016;315:2345-7.
7. Harrold LR, Andrade SE, Briesacher BA, et al. Adherence with urate-lowering therapies for the treatment of gout. Arthritis Res Ther 2009;11:R46.
8. Sarawate CA, Brewer KK, Yang W, et al. Gout medication treatment patterns and adherence to standards of care from a managed care perspective. Mayo Clin Proc 2006;81:925-34.
9. Scheepers LE, van Onna M, Stehouwer CDA, Singh JA, Arts ICW, Boonen A. Medication adherence among patients with gout: a systematic review and meta-analysis. Semin Arthritis Rheum 2018;47:689-702.
10. Khanna P, Berrocal V, An L, Khanna D. Development and pilot testing of MyGoutCare: a novel web-based platform to educate patients with gout. J Clin Rheumatol 2020;26:320-6.
11. Doherty M, Jenkins W, Richardson H, et al. Efficacy and cost-effectiveness of nurse-led care involving education and engagement of patients and a treat-to-target urate-lowering strategy versus usual care for gout: a randomised controlled trial. Lancet 2018;392:1403-12.
12. te Kampe R, Jansen TL, van Durme C, Janssen M, Petersen G, Boonen A. Outcomes of care among patients with gout in Europe: a cross-sectional survey. J Rheumatol xxxxxxxxx.
13. Safiri S, Kolahi AA, Cross M, et al. Prevalence, incidence, and years lived with disability due to gout and its attributable risk factors for 195 countries and territories 1990-2017: a systematic analysis of the Global Burden of Disease Study 2017. Arthritis Rheumatol 2020;72:1916-27.
14. Teoh N, Gamble GD, Horne A, Taylor WJ, Palmano K, Dalbeth N. The challenges of gout flare reporting: mapping flares during a randomized controlled trial. BMC Rheumatol 2019;3:27.