

QI: Gout Management In A Residency Clinic.

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INTRODUCTION

- Gout is the most common form of inflammatory arthritis, affecting more than 40 million adults worldwide (1), with an estimated 3.9% prevalence in the adult US population (2).
- Gout is mostly managed outpatient by a primary care provider (PCP).
- We conducted a Quality Improvement (QI) project in our Internal Medicine Residency (IM) clinic involving increasing awareness, improving management and treatment optimization of gout patients.

METHODS

- Patients were identified with gout from January 2018 - October 2022 at our Community Hospital clinic by EMR search.
- We collected data on age, sex, race, BMI, number of gout flares, number of office visits, comorbidities, recent serum uric acid levels (SUA) and current diuretic use.
- We conducted an initial survey to identify barriers in gout management among residents.
- Resident intervention phase included flyers, emails on lifestyle modification, SUA monitoring, medication titration and follow up.
- Patient interventions included patient education, follow ups via telephone calls, pamphlet (figure 1) on medication compliance, diet and alcohol use.
- At the end of a 6-month period following the active intervention, the percentage of patients who achieved lowering of SUA, reduction in gout flare-ups and change in quality-of-life will be measured (using the Health Assessment Questionnaire Disability Index, HAQDI).

RESULTS

- In the pre survey 69% residents were not familiar with the American College of Rheumatology (ACR) guidelines and almost 50% were unaware of the target SUA level.
- However majority had a good grasp on history taking, dietary restrictions and follow ups.
- 44 patients had a diagnosis of gout between January 2018 - October 2022.
- Patient demographics were as shown in table 1. The serum uric acid levels ranged from 3.4 mg/dL to 11.8 mg/dL with a mean of 6.5 mg/dL (SD 1.9). The study showed that 19.2% of the population had around 1 flare per year of acute gout and about 9.6% had about 2 flares/year. There was no statistically significant difference in demographics or comorbidities in patients with and without gout flares. Latest SUA levels had moderately strong correlation with serum creatinine, but not with number of clinic visits per year, BMI or comorbidities.

Mean Age	60.8, SD 12.7
Sex	Male 32, Female 12
Race	63 % Caucasian, 34 % AA
Mean BMI	33.3 kg/m ²
Tophaceous gout	9.60 %
Crystal proven gout	7.70 %
Radiographic erosions	13.50 %
Mean SUA	6.5 mg/dl
Serum creatinine mean	1.29 mg/dl
Flares/year, one or more per year	28.80 %
Average outpatient visit/year	3.49
Compliance with medication	72.7
Hypertension	93.2 %
Diabetes mellitus	36.4 %
Hyperlipidemia	65.9 %
CKD	34.1 %
CVA	11.40 %
CAD	20.5 %
Alcohol use	50 %
Aspirin use	38.60 %
Statin use	65.90 %
Diuretic use	31.80 %
NSAID use	27.30 %
Allopurinol use	61.40 %
Colchicine use	18.20 %
Steroid use	9.10 %

Latest SUA levels	N	rho	P-value
Serum creatinine	43	0.31	0.04
Outpatient visits	42	-0.16	0.29
BMI	43	0.04	0.75
		Mean with SD	P-value
Hypertension	40	6.6+/- 1.9	0.42
Diabetes	16	7.4+/- 2.4	0.06
CKD	15	6.6+/-2.5	0.82
CVA	5	7.5+/- 2.2	0.27
CAD	9	7.2+/- 2.8	0.63
Alcohol use	22	6.8+/- 1.6	0.13
Diuretic use	14	6.3+/- 2.6	0.25
Allopurinol use	26	6.7+/- 2.2	0.58

Table 1 (left): Patient demographics. Table 2 (right): Comparison of latest serum uric acid levels with comorbidities and demographics.

CONCLUSION

Rheumatology access continues to be limited in the US and making a PCP comfortable with managing gout can help us in many ways. We found a knowledge deficit in our resident group, especially with medical management. Comorbidities and demographics in our study group did not predict flares in gout. The outcome measures of improvement in flares and reduction in SUA at the end of study period and resurveying the residents will give us further idea regarding the success of this project.

REFERENCES

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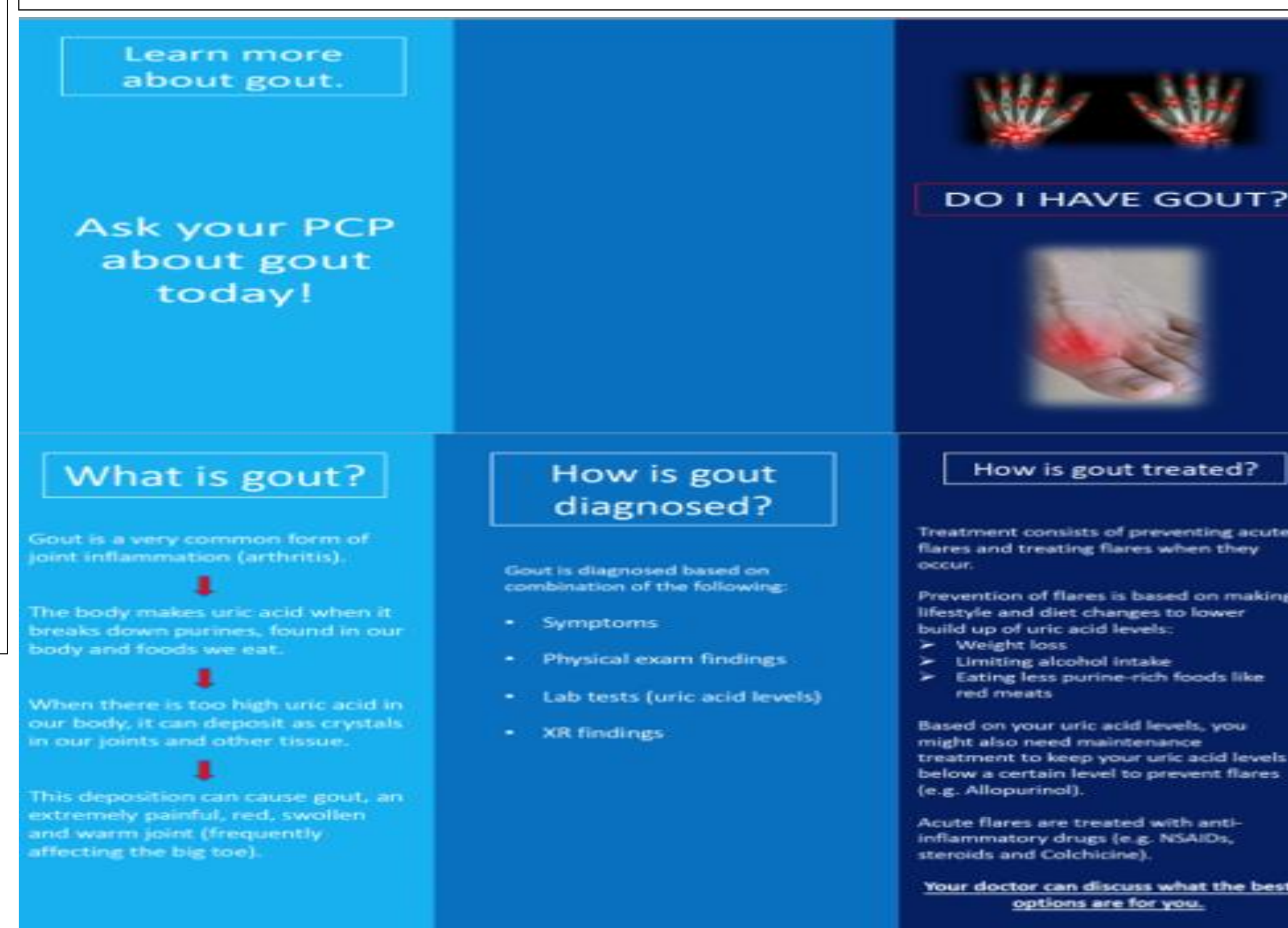


Figure 1: Patient education flyer.