

# Clinical Profile of Filipino Female Patients with Gout Seen in Adult Rheumatology Clinics in the National Capital Region, Philippines

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## Abstract

**Background:** Gouty arthritis is one of the most common arthritis in adults in the Philippines. It is more common in men, although also seen in post-menopausal women. Its characterization in the Filipino population will help in earlier recognition of the disease and administration of appropriate management.

**Objective:** To describe the clinical characteristics of Filipino female patients with gout.

**Methodology:** We reviewed the charts of female patients who were diagnosed with gout using the American College of Rheumatology (ACR) criteria. We collected data on the demographic and disease characteristics of these patients.

**Results:** In our cohort of 768 patients with gout, 8.82% were females. The mean age of onset was 60.25 years old, and the mean age at the initial consult was 63.68 years old. Only a few patients had a family history of gout and of drinking alcohol. Hypertension was a comorbid condition

in 58.21% and there was more than one coexistent illness in 20.89%. The majority presented with a monoarthritis (67.16%). The most commonly involved joints were the ankle (59.7%), knee (41.79%), and the first metatarsophalangeal joint (MTP, 37.3%). On the first visit at the rheumatology clinic, most patients (47.76%) reported less than three attacks of arthritis per year, and 14.92% had tophi. The mean serum uric acid was 8.53 mg/dL, mean serum creatinine was 1.55mg/L, and the mean eGFR was 42.45 mL/min.

**Conclusion:** In clinical practice, gouty arthritis in Filipino females should not be confused with other inflammatory arthritides because its presentation is classic in the majority of patients. On consult at the rheumatology clinic, at least 15% of the patients already had complicated disease. Awareness of Filipino physicians of gout in postmenopausal females must be enhanced for proper recognition and management of this disease.

**Keywords:** gout, females, philippines

## Introduction

Gout is the most common form of inflammatory arthritis. According to the National Nutrition and Health Survey in 2003<sup>7</sup>, it affects 1.6% of the general adult population in the Philippines. It is classically known as a predominantly-male disease, with most women affected only during the post-menopausal period. However, despite an overall increasing incidence of gout, little is published about the characteristics of the disease in Filipino females.

Diagnosing gout in females is a challenge to physicians as its presentation may differ from that in males. It may also mimic or co-exist with other arthritic conditions such as inflammatory osteoarthritis and rheumatoid arthritis. Although gout is more common in men, uric acid levels in women with gout were higher among Caucasians. In a systematic review in 2010 comparing male and females with gout, women had a higher tendency to present with

polyarticular illness. Research done in 2006 by Harrold et al<sup>1</sup>, involving gout patients from a health care facility in the United States documented that female patients with gout were older and had more co-morbid illnesses, including metabolic syndrome and hypertension, compared to males. This was also observed in a separate cohort of gout patients in Taiwan and New Zealand.<sup>9</sup> In the New Zealand population, younger females (< 50 years old) were found to have higher BMI and that earlier onset of gout in females were observed in those with either Maori or Pacific Island ethnicity. The same observation of increasing BMI and incident gout were observed in a 2012 study including<sup>16</sup> Caucasian black and white patients.

The impact of gout in humans cannot be over-emphasized. Aside from causing articular flares, gout has been well known to contribute to coronary heart disease and kidney diseases. Metabolic syndrome is prevalent among patients with gout. Patients with gout have been noted to have a higher risk of death from these co-morbid illnesses, and a higher mortality association is seen in women.

At present, data regarding the clinical features of female gout are lacking in our locality. By describing the

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clinical features of gout in Filipino women, we hope to ensure that the disease is well- recognised, managed, and controlled.

## Objective

The objective of this study is to describe the clinical features of Filipino female gout patients seen in adult rheumatology clinics.

## Methodology

We reviewed the medical records of female patients diagnosed with gout based on the American College of Rheumatology (ACR) criteria, seen at adult rheumatology clinics in the Philippines. We collected data on the demographic and disease characteristics, serum uric acid levels, and co- morbid illnesses. These data were recorded on a uniform data collection form and encoded in Microsoft Excel.

**Statistical analysis:** Means, standard deviations, and proportions were used to describe and summarize the data.

## Results

In our cohort of 768 patients diagnosed with gout, 67 are females (8.72%). The demographic characteristics are summarized in Table I. Majority of the patients are married and unemployed. Most patients denied a history of smoking, drinking alcoholic beverages, and a family history of gout. The mean BMI (SD) is  $26.61 \pm 5.12$  kg/m<sup>2</sup>. The average age at the onset of symptoms is 60.25 years old, with the disease occurring for approximately 3.2 years before disease diagnosis.

Disease features are summarized in Table II. Most patients presented with monoarthritis, commonly involving ankle, knee, or the first metatarsophalangeal joint. The small hand joints are affected the least. Majority presented with less than three attacks per year. There were 14.92% of patients with tophi at the initial visit. The most commonly reported co- morbidity was hypertension, followed by diabetes mellitus, and dyslipidemia. Few patients reported other concomitant diseases such as myoma uteri, bronchial asthma, pulmonary tuberculosis, and hyperthyroidism. Around 20% of patients reported more than one co- morbid illness. Of the 56 patients with complete laboratory results, the average serum uric acid is 8.53 mg/ dL; the average creatinine is 1.55 mg/dL, and the average estimated glomerular filtration rate is 42.45 mL/min.

Table III summarizes the medications the patients received prior to their initial visit to the rheumatologist.

Approximately 62.7% of patients took non-steroidal anti-inflammatory drugs prior to consult. Nineteen percent of them took a combination of drugs, usually two NSAIDs. Most of these medicines were either self-prescribed or were given by a primary healthcare provider. There were no pain medications taken by 5.97% of these patients.

## Discussion

This study's results are lower compared to other reports. Harrold et al<sup>7</sup> reports 19% involving the Caucasian population and Deesomchok et al<sup>13</sup> 11.3% in a Thai population.

Our cohort presented mostly with monoarthritis of lower limb joints. This finding is comparable with most Asian studies<sup>13, 14</sup> and contrary to Western cohorts where Caucasian patients chiefly presented with arthritis involving more than one joint, mostly involving those from the upper extremities.<sup>7, 15, 16</sup> This difference in presentation makes one suspect the possibility of missed diagnosis in Filipino females with inflammatory oligo- or polyarthritis. Further, studies involving Caucasian populations report a high incidence of tophi in their female cohorts.<sup>17, 18</sup> About 20% of our cohort already presented with tophi upon consult, a sign of late or inadequate treatment of the condition.

Our female cohort developed gout despite the absence of previously established factors such as alcohol drinking and a family history of gout. In most of them the identified risk factors were hypertension, other components of the metabolic syndrome, and the menopausal state. As female gout patients have been mentioned to have a higher mortality risk compared to males, tight control of hyperuricemia along with these other concomitant illnesses should be practiced.

Our study also documented that our female cohort had a relatively depressed kidney function (median eGFR= 42 mL/min) on rheumatology consult. Age, co-morbid conditions, NSAID use, and gout itself are all contributory to this complication. This emphasizes the need for assessment of renal function and diligent consideration of renal function when choosing anti-inflammatory and other medications.

Our research recognizes its limitations. First, as this was produced through review of records, not all data were present. Second, the diagnosis of gout was mostly based on clinical grounds and the ACR criteria. Synovial fluid analysis to definitely diagnose gouty arthritis was rarely done. Third, the age at onset of menopause along with other factors which could have contributed to gout in females such as the use of diuretics were not mentioned.

**Table I. Demographic characteristics of female patients with gout**

|                                                                   | Female (n= 67) | Frequency (%) |
|-------------------------------------------------------------------|----------------|---------------|
| <b>Civil Status</b>                                               |                |               |
| Single                                                            | 5              | 7.46          |
| Married                                                           | 62             | 92.54         |
| <b>Employment</b>                                                 |                |               |
| Not employed                                                      | 17             | 25.37         |
| Presently employed                                                | 6              | 8.95          |
| Not stated                                                        | 46             | 68.66         |
| <b>Smoking</b>                                                    |                |               |
| Non- smokers                                                      | 3              | 44.78         |
| Not stated                                                        | 49             | 73.13         |
| <b>Alcohol drinking</b>                                           |                |               |
| No drinking                                                       | 15             | 22.39         |
| Not stated                                                        | 1              | 1.49          |
| <b>Positive family history of gout</b>                            |                |               |
| No family history                                                 | 51             | 76.12         |
| Not stated                                                        | 15             | 22.39         |
| <b>BMI (kg/m<sup>2</sup>, SD, n= 22)</b>                          | 9              | 13.43         |
| Median                                                            | 29             | 43.28         |
| <b>Age at onset of symptoms (years, mean, SD)</b>                 | 29             | 43.28         |
| <b>Duration of symptoms prior to diagnosis (months, mean, SD)</b> | 26.61 ± 5.12   | -             |
| <b>Age at index consult (years, mean, SD)</b>                     | 27.3           | -             |
|                                                                   | 60.25 ± 11.08  | -             |
|                                                                   | 39.27 ± 68.40  | -             |
|                                                                   | 63.68 ± 10.42  | -             |

**Table II. Disease characteristics of female patients with gout**

|                                                | Female (n= 67) | Frequency (%) |
|------------------------------------------------|----------------|---------------|
| <b>Joint involvement at onset of symptoms</b>  |                |               |
| Monoarticular                                  | 45             | 67.16         |
| Oligoarticular                                 | 6              | 8.95          |
| Polyarticular                                  | 3              | 4.48          |
| Not stated                                     | 13             | 19.40         |
| <b>Joints involved</b>                         |                |               |
| Ankle                                          | 40             | 59.70         |
| Knee                                           | 28             | 41.79         |
| First metatarsophalangeal (MTP)                | 25             | 37.31         |
| Wrist                                          | 14             | 20.89         |
| Metacarpophalangeal                            | 5              | 7.46          |
| Elbow                                          | 5              | 7.46          |
| Tarsal Joints                                  | 4              | 5.97          |
| Distal interphalangeal                         | 2              | 2.98          |
| Proximal interphalangeal                       | 1              | 1.49          |
| <b>Frequency of attacks</b>                    |                |               |
| < 3 attacks/ year                              | 59.70          | 47.76         |
| >3 attacks / year                              | 41.79          | 29.85         |
| Not stated                                     | 37.31          | 22.39         |
| <b>Presence of tophi</b>                       | 20.89          | 14.92         |
| <b>Co- morbid illnesses</b>                    | 7.46           |               |
| Hypertension                                   | 7.46           | 58.21         |
| Diabetes mellitus                              | 5.97           | 13.43         |
| Dyslipidemia                                   | 2.98           | 4.48          |
| Others                                         | 1.49           | 17.91         |
| More than 1 co- morbid illness                 | 39             | 20.89         |
| <b>Mean serum uric acid (mg/dL; SD; n= 56)</b> | 9              |               |
| <b>Mean serum creatinine (mg/dL; SD; n=56)</b> | 3              |               |
| <b>Mean eGFR (mL/min; SD; n= 44)</b>           | 12             |               |

**Table III: Treatment received prior to diagnosis of gout**

| Medication              | Results (n= 67) | Frequency (%) |
|-------------------------|-----------------|---------------|
| NSAID                   | 42              | 62.69         |
| Colchicine              | 6               | 8.96          |
| Urate- lowering therapy | 4               | 6.0           |
| Oral steroids           | 3               | 4.48          |
| Tramadol                | 1               | 1.49          |
| *Combination            | 13              | 19.40         |

\*Combination of any of the above medications

## Conclusion

The prevalence of females with gout in our cohort of 768 Filipinos is 8.82%. Female patients presented with an older age of onset and diagnosis and with a high serum uric acid and average serum creatinine on rheumatology consult. The most common disease presentation was monoarthritis, often involving the ankle and/ or the knee. In clinical practice, therefore, gouty arthritis in Filipino females should not be confused with other inflammatory arthritides because its presentation is classic in the majority of patients. On consult at the rheumatology clinic, at least 15% of the patients already had complicated disease. Awareness of Filipino physicians of gout in postmenopausal females must be enhanced for proper recognition and management of this disease.

## Ethical Considerations

The study was approved by the Institutional Review Board and Ethics Committee. It was conducted in compliance with ICH-GCP guideline. The authors have no conflicts of interest to disclose.

## References

1. **Salido E, Manapat-Reyes H, Dans L:** Serum uric acid and its relationship with demographic characteristics among Filipino adults 20 years old and above: results from the NNHeS 2003. *Phil Journal of Med*, 46:273-278, Nov-Dec 2008.
2. **Weaver A.** Epidemiology of gout. 75 (5): S9- 11, 2008.
3. **Arromdee E, Michet CJ, Crowson CS, O' Fallon WM, Gabriel SE.** Epidemiology of gout: is the incidence increasing? *J Rheumatol*. 29(11): 2403- 6, 2002.
4. **Wallace K, Riedel A, Joseph- Ridge N, Wortman R.** Increasing prevalence of gout and hyperuricemia over 10 years among older adults in a managed care population. *J Rheumatol*. 31 (8), 2004.
5. **Bhole V, de Vera M, Rahman MM, Krishnan E, Choi H.** Epidemiology of gout in women: Fifty- two year follow- up of a prospective cohort. *Arthritis Rheum*. 62(4): 1069- 1076, 2010.
6. **Dirken- Heukensfeldt KJM, Teunissen TAM, van de Lisdonk EH, Lagro- Janssen ALM.** Clinical features of women with gouty arthritis: a systematic review. *ClinRheumatol* 2010; 29: 575- 582, 2010.
7. **Harrold LR, Yood RA, Mikuls TR, Andrade SE, Davis J, Fuller J, Chan KA, Roblin D, Raebel MA, Von Worley A, Platt R, Saag KG.** Sex differences in gout epidemiology: evaluation and treatment. *An Rheum Dis*. 65: 1368- 1372, 2006.
8. **Chen JH, Yeh WT, Chuang SY, Wu YY, Pan WH.** Gender-specific risk factors for incident gout: a prospective cohort study. *ClinRheumatol*. 31 (2): 239- 245, 2012.
9. **Kumar S, Gupta R, Suppiah R.** Gout in women: differences in risk factors in young and older women. *N Z Med J*. 2012 Oct 12; 125 (1363): 39- 45, 2012.
10. **Maynard JW, McAdams de Marco MA, Baer AN, Kottgen A, Folsom AR, Coresh J, Gelber AC.** Incident gout in women and association with obesity in the Atherosclerosis Risk in Communities (ARIC) Study. *Am J Med*. 125 (7): 717, 2012.
11. **Dianongco M, Magbitang A, Salido E.** Prevalence of Metabolic Syndrome in Filipino Patients with Gout seen in a Tertiary Hospital. *Phil J Int Med*. (52)1: 1-4, 2014.
12. **Teng GG, Li- Wei A, Saag K, Yu M, Yuan JM, Koh WP.** Mortality due to coronary heart disease and kidney disease among midde- aged and elderly man and women with gotu in the Singapore Chinese health study. *Ann Rheum Dis*, 71 (6): 924- 928, 2012.
13. **Deesomchok U, Tumrasvin T.** A clinical comparison of females and males with gouty arthritis. *J Med Assoc Thai*. 72(9):510-5, 1989.
14. **Koh WH, Seah A, Chai P.** Clinical presentation and disease associations of gout: a hospital-based study of 100 patients in Singapore. *Ann Acad Med Singapore*. 27(1):7-10, 1998.
15. **De Souza A, Fernandes V, Ferrari AJ.** Female gout: clinical and laboratory features. *J Rheumatol*. 32(11):2186-8, 2005.
16. **Cassim B, Mody GM, Deenadayalu VK, Hammond MG.** Gout in black South Africans: a clinical and genetic study. *Ann Rheum Dis*. 53(11): 759-762, 1994.
17. **Lally EV, Ho G Jr, Kaplan SR.** The clinical spectrum of gouty arthritis in women. *Arch Intern Med*. 146(11):2221-5, 1986.
18. **Puig JG, Michán AD, Jiménez ML, Pérez de Ayala C, Mateos FA, Capitán CF, de Miguel E, Gijón JB.** Female gout. Clinical spectrum and uric acid metabolism. *Arch Intern Med*. 151(4):726-32, 1991.