

# Role of community pharmacists in the detection of potentially inappropriate xanthine oxidase inhibitor prescriptions

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## Abstract

### Background

The xanthine oxidase (XO) inhibitors are the principal treatment of choice for gout and allopurinol is used by more than 1.2 million patients in the United States and United Kingdom. However, this drug is often used inappropriately in asymptomatic hyperuricemia, and this indication is not supported by conclusive evidence from prospective randomized clinical human research trials, nor is it recommended by any guidelines.

According to the hypothesis that inappropriate prescription is associated to the treatment of asymptomatic hyperuricemia in patients with cardiovascular diseases and considering the licensed indications for XO inhibitors (management of signs and symptoms of primary or secondary gout; chemotherapy-induced hyperuricemia; and recurrent calcium oxalate stones), we conducted an observational study among Italian community pharmacies to examine the role of pharmacists in the detection of signal of inappropriate prescriptions of these drugs.

### Objectives

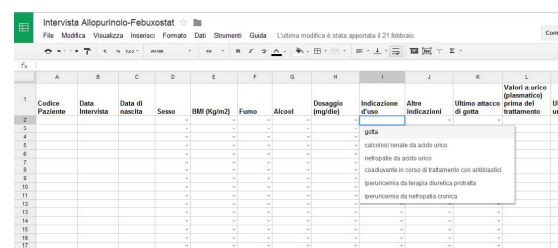
To investigate the appropriateness of XO inhibitor use in relation to evidence-based indications and examine the role of community pharmacies in the detection of signal of inappropriate prescriptions of these drugs.

### Methods

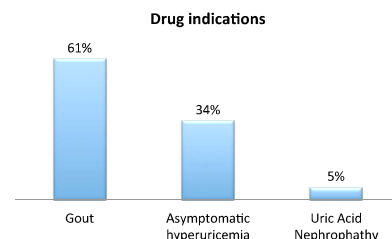
This is an observational study conducted in 8 community pharmacies. Each pharmacist was asked to interview a sample of patients with the prescriptions of XO inhibitors. Patients were asked to complete a structured minimum data set collecting information about drug indication, history of gout and presence of cardiovascular diseases.

### Results

The study sample included 74 patients receiving XO inhibitors. About one third of patients reported to be treated for asymptomatic hyperuricemia and has never had a gout attack. About half of patients treated for asymptomatic hyperuricemia was on long term treatment (longer than 3 years). Four asymptomatic hyperuricemic patients referred to receive allopurinol to treat hypertension. Among patients treated for asymptomatic hyperuricemia there was a significant higher presence of diabetes, obesity, previous myocardial infarction and heart failure.



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Codice Paziente	Data Intervista	Data di nascita	Sesso	BMI (Kg/m <sup>2</sup> )	Fumo	Alcool	Dosaggio (mg/die)	Indicazione d'uso	Altre indicazioni	Ultimo attacco di gotta	Valori a urico (g/mole)	Ut					
								gotta									
								calcolosi renali da acido urico									
								nefrologia da acido urico									
								coadiuvante in corso di trattamento con antibiotici									
								iperuricemia da terapia diuretica protetta									
								iperuricemia da nefropatia cronica									



### Conclusions

Inappropriate use of XO inhibitors is principally related to treatment of hyperuricemia in patients with cardiovascular diseases. Community pharmacists have a central role in the pharmacovigilance activity, by contributing to the prevention and identification of potential inappropriate drug prescriptions.

