

Understanding and perceptions of gout: an interdisciplinary assessment among patients, physicians and pharmacists in Italy

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SUMMARY

The objective was to assess knowledge and therapeutic approaches to the management of gout among health-care professionals and people with/without gout, in Italy.

This was a cross-sectional internet-based survey targeting general practitioners (GPs), specialists, pharmacists, and people with/without gout. Between December 2017 and March 2018, participants completed questionnaires on epidemiology, cause/risk factors, therapy objectives and management/treatment strategies to improve outcomes.

Overall, 3184 people completed the survey: 699 GPs, 426 specialists, 655 pharmacists and 1404 subjects from the general population: 126 (9.0%) with and 1278 (91.0%) without gout. Notably, less than half of GPs, specialists and people without gout confirmed the published 1% prevalence of gout in Italy. Lifestyle was acknowledged as the main risk factor for gout by nearly 50% of specialists and GPs, while only 13.8% and 12.4%, respectively, considered the role of genetic factors. Uric acid overproduction was deemed as the cause of gout by 60% of GPs and specialists, whereas insufficient excretion by only 30%. Fewer than half of patients were aware that gout permanently damages joints, and even fewer of the renal and cardiovascular implications (19.4% and 12%, respectively); moreover, most people without gout replied that their doctor had never talked with them about uric acid and its correlation with gout development. Finally, GPs were divided on uric acid target levels (48.3% said <6 mg/dL and 18.9% <7 mg/dL).

Despite major advances in the knowledge of physiopathological mechanisms of gout, the results of our survey highlight the many treatment and knowledge gaps in its management. Cooperation between multidisciplinary teams is required to break down barriers and ensure optimal treatment with effective and innovative agents of this ever-increasing debilitating condition.

Key words: Gout, Italy, multidisciplinary, survey, uric acid-lowering drugs.

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■ INTRODUCTION

What do English 16th century nobility and the tyrant king of the dinosaurs have in common? Both Henry VIII and *Tyrannosaurus Rex* reportedly suffered from gout. The former probably because he lived a sedentary, decadent life overindulging in red meat and port wine contaminated with lead. In the latter, the dinosaurian gout recently evidenced in fossilized bones and joints was probably due to the consumption of large quantities of high-purine red meat (1, 2). For too long the prevalence and clinical consequences of this debilitating condition have been underestimated (3, 4).

Gout is the most common form of inflammatory arthritis in adults and the second most common form of any type of arthritis (5-7). Worldwide, and in particular in developed countries, the prevalence of gout is increasing (8, 9). In Italy, gout increased by 36% in the period 2005-2009 (9-11). Elfishawi et al. reported that not only has the incidence of gout more than doubled over the recent 20 years, but patients diagnosed with gout between 2009 and 2010 had a higher prevalence of comorbid conditions and CV risk factors compared with 1989-1992 (10).

In Italy, people with gout are managed by both primary and secondary/special-

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ist healthcare professionals, but still many people do not receive optimal treatment. Education, better diagnosis and effective long-term, multidisciplinary management as well as increased use of preventive strategies are urgently required. To our knowledge, there are no cross-sectional surveys conducted among Italian primary and secondary healthcare professionals and people with/without gout, to assess current knowledge and therapeutic approaches to the management of gout. We devised a cross-sectional survey to capture such information, with the overall objective of identifying areas of improvement to ensure gout patients a better clinical outcome.

■ MATERIALS AND METHODS

This was a cross-sectional internet-based survey targeting general practitioners, specialists, pharmacists, and people with/without gout. The healthcare professionals were subscribers to Medikey (an online Italian network), while subjects from the general population were subscribers to 'Dica33', an online platform dedicated to medicine and health. Specialists targeted were rheumatologists, internists, geriatricians, cardiologists, nephrologists, orthopedic consultants and urologists. Subjects from all geographical areas of Italy were invited to participate on a voluntary basis from December 2017 to March 2018. Participants who agreed to take part in the online survey completed a series of multiple-choice questionnaires which differed, based on the target population (see Appendix, Tables A I-V). Respondents were instructed to answer all questions and to select a single reply or multiple responses as

indicated. Each of the five questionnaires (GPs, specialists, pharmacists, people with and people without gout) were in turn divided into five major areas - epidemiology, cause/risk factors, objectives of therapy, management and treatment and strategies to improve outcomes. All completed questionnaires were anonymous, and no demographic data were collected.

■ RESULTS

Overall, 3184 people completed the questionnaires, out of a total of 137,528 invitations dispatched and 4192 *clicks on e-mail*, made up of 699 GPs; 426 specialists; 655 pharmacists; 1404 citizens (1278 people without gout and 126 patients with gout) (Table I).

There were no significant differences in percentage of responses from the seven categories of specialists (rheumatologists, internists, geriatricians, cardiologists, nephrologists, orthopedic consultants and urologists). Responders were from seven regions of Northern Italy, seven from Central Italy and six from the South and Islands, with no major differences in the mean response for the three *macro areas* (North, Center, South and Islands) between the five groups studied (GPs, specialists, pharmacists, people with and people without gout). There was a trend towards higher response rates in subjects from Val d'Aosta: 100% of citizens (with/without gout) replied while none from Molise replied.

Epidemiology

In total, 58% of GPs and specialists acknowledged the fact that gout prevalence was increasing, with 34% of GPs and

Table I - Participants in survey.

Target group	Invitations e-mailed	Clicks on e-mail	Questionnaires completed	% participation in survey of those invited	% participation in survey of those who clicked on e-mail
General practitioners	29,456	885	699	2	79
Specialists	27,334	729	426	2	58
Pharmacists	29,153	750	655	2	87
Citizens	51,585	1,828	1,404	3	77

37.5% of specialists aware of published data on 1% published prevalence in Italy, information shared also by 42% of people without gout.

Cause/risk factors

Over 70% of people without gout defined it as a *painful inflammation of the joints* and 88.5% of patients with gout said it was due to high levels of uric acid in the blood (hyperuricemia).

When asked about risk factors, 50% of both specialists and GPs said the main risk factor for gout was lifestyle (consumption of a diet with high purine content, excessive consumption of alcohol, etc.) with 33% and 30% of specialists and GPs saying it was the presence of co-morbidities (metabolic syndrome, chronic renal failure, etc.). Only 12% of GPs and 14% of specialists considered genetic factors played a role. Overall 61% of GPs and 65% of specialists replied that it was caused by overproduction of uric acid and 33% and 30% of GPs and specialists, respectively, reported that it was caused by insufficient excretion (Figure 1).

Patients with gout: knowledge of their condition

Less than half of patients with gout (44.6%) knew that gout could result in permanent damage to the joints and 19.4% and 12% were aware of the renal and cardiovascular implications, respectively. To learn more about their conditions, 65.5% would approach their GP, 18% a specialist, 1.4% their pharmacist and 15% would try to find out information from other sources (internet). They would like to receive information on a range of subjects from the causes of gout to its long-term consequences, how to adapt lifestyle and what are the available therapies. Pharmacists who interface with gout patients confirmed that patients are not aware of the seriousness of gout and as a result, they underestimate the impact of the disease.

Objectives of therapy

Nearly 80% of specialists reported that measuring serum uric levels (sUA) was the principal method to determine efficacy of therapy (Figure 2A). GPs were divided on the target levels of UA on gout treatment:

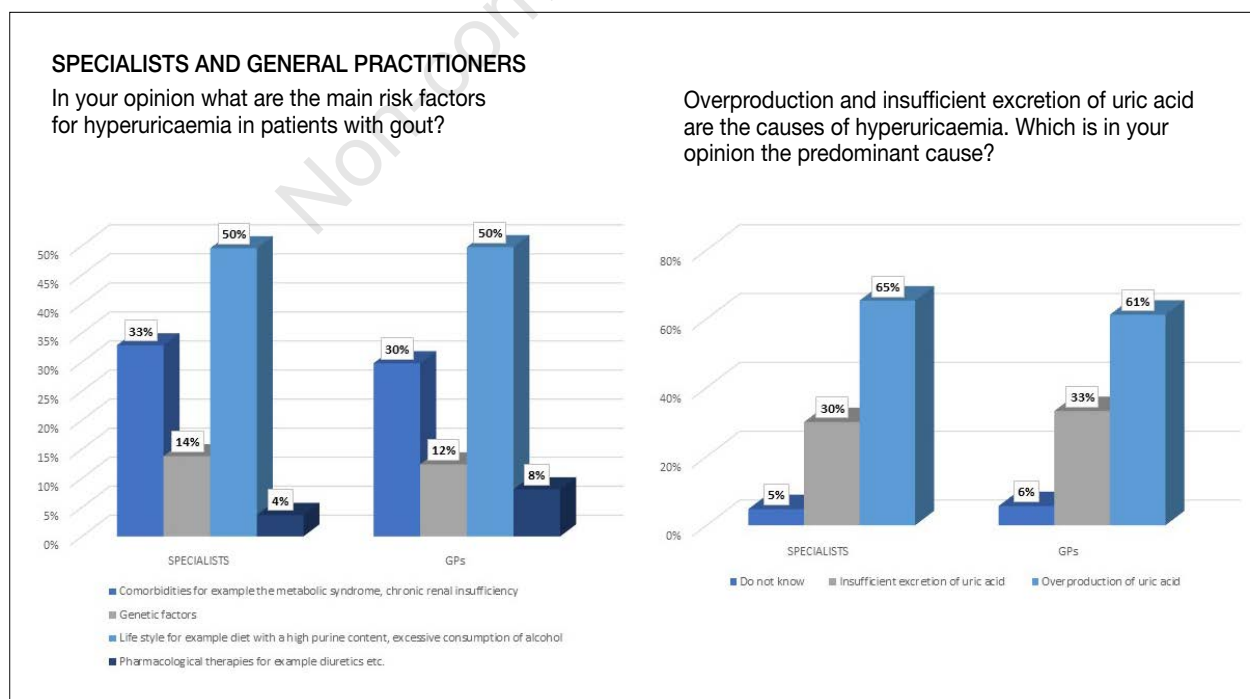


Figure 1 - Responders to questions on cause/risk factors of gout (specialists and GPs).

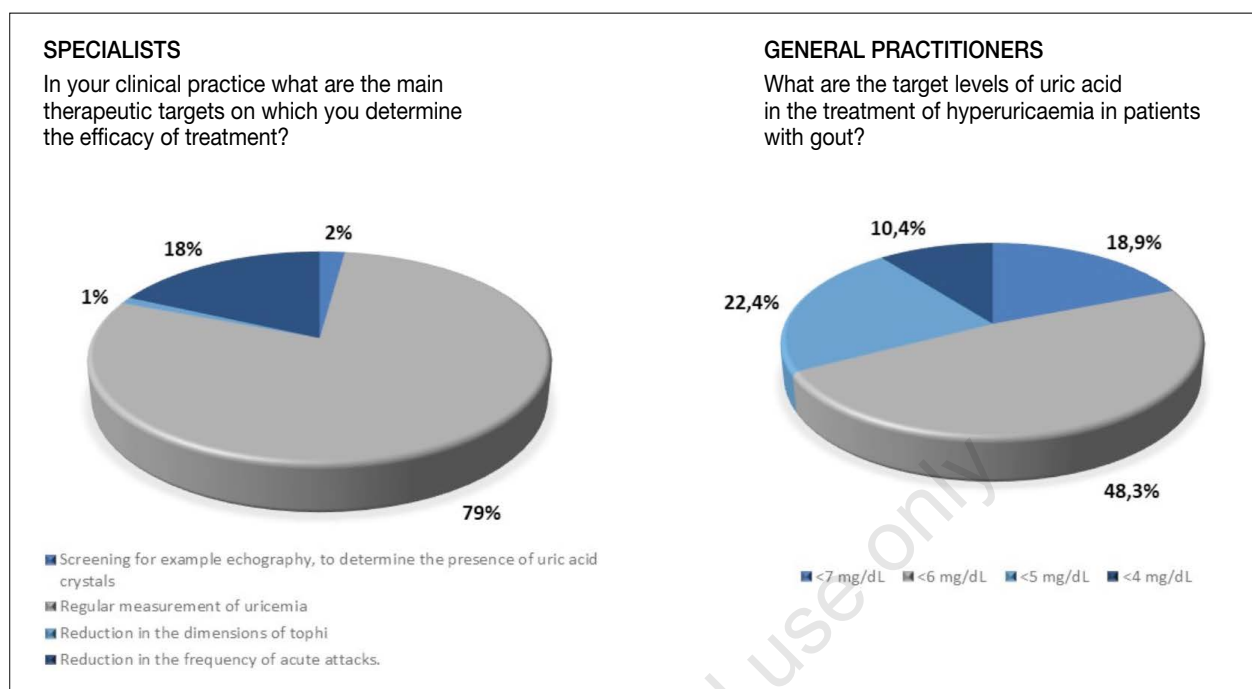


Figure 2 - A and B) Responders to questions on therapeutic targets/objectives of therapy (GPs, specialists).

the majority said <6 mg/dL (48.3%), with 18.9% replying <7 mg/dL (Figure 2B).

Management and treatment

Most GPs and specialists acknowledged the importance of monitoring sUA levels, especially in patients with other comorbidities. Almost all GPs reported that measurement of sUA should be done routinely at least once a year, with 50% linking the need of measuring it to the presence of CV diseases or kidney function impairment. This was also reflected in patients' answers on the time interval since the last sUA measurement: the majority (61%) referred that they had had an sUA measurement within the past 6 months.

GPs and specialists agreed that the main limitations of gout treatments were (in order of relevance): low compliance to therapy, side effects, pharmacological interactions and low efficacy in reaching therapeutic targets. With regard to pharmacists' involvement in gout management, only a minority of them (30%) reported to be involved in gout management and then

only at the request of the patient. Over 50% acknowledged that the main limit to proper management is adherence to therapy, but over 40% believed that therapy can be interrupted if the patient is symptom free for >12 months.

Incomplete/lack of knowledge has also an impact on gout management: 49% of patients with gout say they take continuous therapy, with 27% stating they take medication when they have an attack/flare-up. Of note, nearly 70% of people without gout reported that their doctor had never talked with them about UA levels (Figure 3).

Strategies to improve outcomes

Patients would like to receive more information on: the causes of their disease (23%), long-term consequence of gout (25%), recommended modifications in lifestyle (24%) and treatment options (27%). Overall, 50% of specialists and 52.8% of GPs considered that it was necessary to improve training for doctors to promote knowledge of the latest guidelines on the management and treatment of gout and provide more information to

patients (for example on how to improve adherence).

Over 20% of both groups highlighted the importance of greater co-operation between GPs and specialists (Figure 4). Pharmacists (36.9%) believe that the disease is underestimated and that people with gout require more information on how to adapt their lifestyle.

DISCUSSION AND CONCLUSIONS

Gout is a crystal deposition disease resulting from hyperuricemia and associated with a wide spectrum of articular, cardiovascular (CV), renal and metabolic complications, as well as an increased risk of mortality (3, 4). Hyperuricemia results

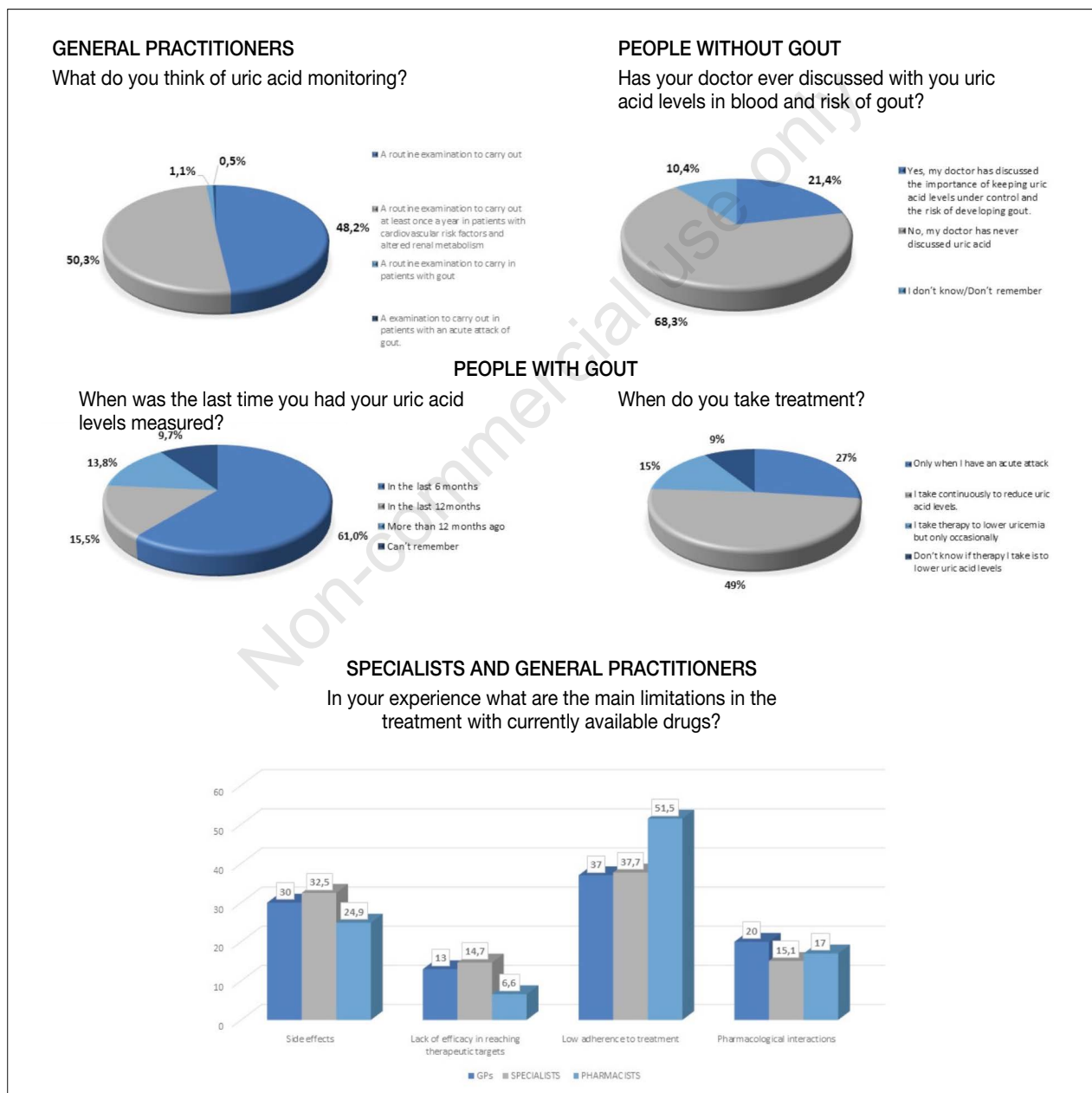


Figure 3 - Responses to questions on management and treatment of gout (GPs, specialists, people with/without gout).

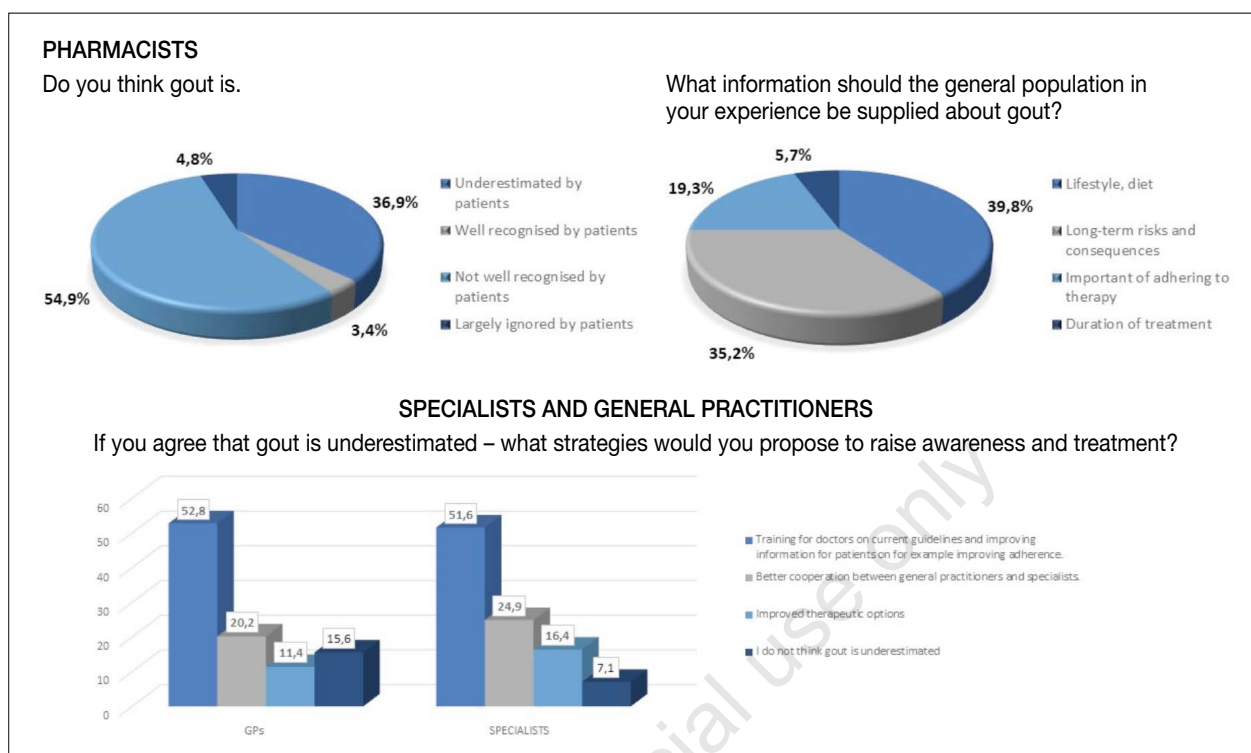


Figure 4 - Responders to questions on strategies to improve outcomes (GPs, specialists, pharmacists).

from the overproduction of urate (around 10%), the underexcretion of urate (around 90%) and often from a combination of the two (12, 13). Clinical signs of gout develop after long-standing hyperuricemia but the process of *silent* deposition of monosodium urate (MSU) can occur long before symptoms emerge. There is a growing body of evidence supporting the hypothesis that morpho-structural changes preceding clinical manifestation induced by hyperuricemia, can occur in both intra- and extra-articular structures and persistent hyperuricemia may cause a range of subclinical skeletal changes in asymptomatic individuals (14). Silent deposition of MSU crystals in patients with asymptomatic hyperuricemia has been associated with more severe coronary calcification, indicating more severe coronary artery disease in relation to crystal deposition and a poorer prognosis (15). Serum UA levels above its saturation point (~6.8 mg/dL, 0.41 mmol/L) result in the deposition of MSU crystals. These deposits, spontaneously or as a result of

a stressful event, can be destabilized and lead to shedding of crystals which generates an inflammatory response leading to an acute attack of arthritis and, in the long term, to tophi formation. MSU crystal deposits go on to cause irreversible bone erosion, chronic pain, impaired joint function and a drastic reduction in quality of life. If not treated appropriately, gout develops into a condition called chronic tophaceous gout, characterized by continuous pain, involvement of more joints and presence of tophi in the extra-articular tissues, leading to progressive decrease of joint function and permanent joint damage (3). A body of evidence now shows a strong association between hyperuricemia and new onset/progression of cardio-nephro-metabolic complications, along with increased risk of mortality (8, 16, 17).

A recent post hoc analysis of the multinational EURIKA study in over 7500 patients supported the role of sUA as a risk factor for cardiometabolic diseases, with higher sUA levels associated with progressively

higher 10-year CV death risk score in patients with at least one CV risk factor but no CV disease (18). Furthermore, there is evidence that UA is a strong risk factor for myocardial infarction and stroke (19): notably, it has been shown that a relation between sUA levels and CVD already exists in patients with sUA levels considered as normal to high, *i.e.* >5.2-5.5 mg/dL (19). Although additional evidence is required to draw definitive conclusions, these data suggest the need for prompt therapeutic interventions to improve symptoms and reduce the risk of associated comorbidities. The therapeutic goal in the management of hyperuricemia associated with gout, is to lower sUA levels to a threshold value of <6.0 mg/dL (<360 $\mu\text{mol/L}$) or <5 mg/dL in more severe conditions (<300 $\mu\text{mol/L}$) (20-23).

Despite these major advances in our understanding of the pathophysiology of gout and the availability of effective treatments, current management remains suboptimal. Reasons for this include poor diagnostic procedures, physicians not regularly measuring sUA levels, poor compliance and incorrect dosage of urate-lowering therapies (ULT). Compliance is a major problem, with an Italian study reporting 17% of patients as adherent to treatment after 3 months of therapy (24), while Perez-Ruiz & Desideri reported that adherence to treatment was less than 40% in the first year of therapy (25, 26).

The results of our cross-sectional Internet survey on gout provide much needed data on this neglected but debilitating condition. Despite major advances in effective therapies for the management of gout, there are still many treatment and knowledge gaps in its management. To this end, ours was a far-reaching and ambitious study focused on specialists, GPs and people with/without gout, with the aim of capturing their opinions and knowledge. To our knowledge this is one of the largest studies of this nature carried out in Italy, with data collected from over 3000 subjects. Of the 1404 citizens who responded to our survey, 9% had gout and although this cannot be interpreted as a reflection of the real preva-

lence of the disease at a national level, it can be considered a *red flag* indicating that gout is still significantly under-reported and, therefore, under-treated. Gout is still considered to be an *ancient disease*, as demonstrated by the fact that around 40% of healthcare professionals (HCPs) were not aware that gout's prevalence in Italy is progressively increasing (9). Almost half of specialists said the main risk factor for gout was lifestyle, with a small percentage of GPs (12.4%) and of specialists (13.8%) reporting that genetic factors played a role. Indeed, around 60% of GPs and specialists considered high-purine diet and lifestyle the main reasons for overproduction of uric acid and only 30% imputed hyperuricemia to insufficient renal excretion.

These data highlight the need to increase awareness among HCPs on the underlying causes of hyperuricemia and gout, in order to ensure a more effective and physiological approach to its management. In the last decade, a treat-to-target (T2T) approach has been proposed for gout with much discussion on what the target should be. Therapeutic targets endorsed by EULAR, ACR and other scientific societies consider 6 mg/dL (0.36 mmol/L) as the minimum cut-off to obtain meaningful benefit from ULT, whereas 5 mg/dL (0.30 mmol/L) is considered the minimum target in patients suffering from more severe clinical characteristics (27).

In everyday clinical practice, there is still no common recognition of the UA safety target level, a situation made more difficult by the fact that laboratories refer to normal ranges defined according to the distribution in the healthy population (3.5-7.2 mg/dL), regardless of the defined safety threshold of 6 mg/dL. Lately, based on evidence showing a relation between sUA levels >5.2-5.5 mg/dL and CVD, HCPs are becoming more aware of the need to maintain sUA levels lower than 6 mg/dL. This was reflected in our study, where around 48% of GPs considered target levels values should be <6 mg/dL and 22.4% said they should be <5 mg/dL. As the causes of hyperuricemia are twofold (overproduction and underexcretion), to

ensure a physiological approach to treatment of hyperuricemia and to ensure T2T levels are met, both these mechanisms should be targeted. Xanthine oxidase inhibitors (XOI, *i.e.* first-line agent allopurinol and second-line febuxostat) target only UA production and as a result it is difficult to reach target levels and many patients are classified as non-responders to XOI alone. Based on this rationale, lesinurad, a new selective uricosuric acting on renal underexcretion, has been introduced into clinical practice; inhibiting URAT1 and OAT4 renal transporters, lesinurad increases uric acid excretion and thereby lowers sUA. When used in combination with allopurinol or febuxostat, it provides a dual mechanism approach that lowers sUA more effectively compared to XOI monotherapy. This strategy is supported by current EULAR guidelines recommending a second-line combination therapy with allopurinol and a uricosuric agent in patients who do not achieve the sUA target with XOI monotherapy, given the complementary mechanism of action of these molecules (21).

The majority of GPs and specialists in our study agreed that one of the limitations of gout treatment is low compliance to therapy, with only 49% of patients reporting they take continuous therapy and nearly 30% only taking their medication when they have an attack/flare-up. The T2T approach requires a concerted effort to optimize treatment and management of gout at the patient, community and national level, in order to increase awareness of the condition with the ultimate aim of increasing adherence and hence the effectiveness of therapy.

The WHO defined adherence as a multidimensional phenomenon determined by the interplay of five sets of factors/dimensions (social and economic, health system, therapy-related, patient-related, condition-related), of which patient-related factors are just one determinant (28). The common belief that patients are solely responsible for taking their treatment is misleading and most often reflects a misunderstanding of how other factors affect people's behavior

and capacity to adhere to their treatment. This is reflected in our results, as nearly 70% of people without gout replied that their doctor had not proactively talked with them about UA levels.

Given that well-tolerated and effective treatments for gout are now available, improving adherence to therapy requires overcoming patient- and physician-related barriers and education. Therefore, cooperation between all involved parties (patients, HCPs and pharmacists) is essential to overcome difficulties and ensure optimal management.

Our study is not without its limitations in that it enrolled patients (and specialists) who were already registered on Italian medicine/health sites and as such may have constituted a degree of selection bias. Nevertheless, our results highlight the many treatment and knowledge gaps in the management of gout in Italy. They show that cooperation between multidisciplinary teams and improved education is required to break down barriers and ensure optimal treatment of this ever-increasing, debilitating condition.

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Contributions

Both authors contributed to the research, development and writing of the manuscript.

Conflicts of interest

LP reports consulting fees, speaker fees or grants from: Abbvie, Fidia, Grünenthal, Menarini, Pfizer, MSD, BMS. GM reports consulting fees from Grünenthal, Astra-Zeneca.

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■ APPENDIX

Table A I - Questionnaire aimed at GPs.

Question	Answer
EPIDEMIOLOGY? Indicate which of the following you agree with? Select one reply	In Italy the number of patients with gout is decreasing
	The prevalence of gout in Italy is very low (around 0.1% of the population)
	In Italy the number of patients with gout is increasing
	Gout today affects 0.1% of Italians
RISK FACTORS/CAUSE In your opinion what are the main risk factors for hyperuricemia in patients with gout? Select one reply	Genetic factors
	Pharmacological therapies for example diuretics etc.
	Comorbidities for example the metabolic syndrome, chronic renal insufficiency.
	Lifestyle for example diet with a high purine content, excessive consumption of alcohol.
RISK FACTORS/CAUSE Overproduction and insufficient excretion of uric acid are the causes of hyperuricemia. Which is in your opinion the predominant cause? Select one reply	Overproduction of uric acid
	Insufficient excretion of uric acid
	Don't know
THERAPEUTIC TARGET What are the target levels of uric acid in the treatment of hyperuricemia in patients with gout? Select one reply	<7 mg/dL
	<6 mg/dL
	<5 mg/dL
	<4 mg/dL
MANAGEMENT AND TREATMENT Uric acid monitoring in your opinion is? Select one reply	A routine examination to be carried out at least once a year on all patients
	A routine examination to be carried out at least once a year on patients with cardiovascular risk factors and altered renal metabolism
	A routine examination to be carried out on patients with gout
	An examination to be carried out on patients with a n acute attack of gout.
MANAGEMENT AND TREATMENT In your experience what are the main limitations in the treatment of hyperuricemia with currently available drugs? Select more than one reply as appropriate	Side effects
	Lack of efficacy in reaching therapeutic targets
	Low adherence to treatment
	Pharmacological interactions
STRATEGIES TO IMPROVE OUTCOMES If you agree that gout is underestimated - what strategies would you propose to raise awareness and treatment? Select more than one reply as appropriate	Training for doctors on current guidelines and improving information for patients on for example improving adherence
	Better cooperation between general practitioners and specialists
	Improved therapeutic options
	I do not think gout is underestimated

Table A II - Questionnaire aimed at specialists.

Question	Answers
EPIDEMIOLOGY Indicate which of the following you agree with? Select one reply	The prevalence of gout in Italy is very low (around 0.1% of the population)
	In Italy the number of patients with gout is increasing
	Gout today affects 0.1% of Italians
RISKFACORS/CAUSE In your opinion what are the main risk factors for hyperuricemia in patients with gout? Select one reply	Comorbidities for example the metabolic syndrome, chronic renal insufficiency
	Genetic factors
	Life style for example diet with a high purine content, excessive consumption of alcohol
RISKFACORS/CAUSE Overproduction and insufficient excretion of uric acid are the causes of hyperuricemia. Which is in your opinion the predominant cause? Select one reply	Insufficient excretion of uric acid
	Do not know
	Overproduction of uric acid
THERAPEUTIC TARGETS In your clinical practice what are the main therapeutic targets on which you determine the efficacy of treatment? Select one reply	Screening for example echography, to determine the presence of uric acid crystals
	Regular measurement of uricemia
	Reduction in the dimensions of tophi
MANAGEMENT AND TREATMENT In your experience what are the main limitations in the treatment of hyperuricemia with currently available products? Select more than one reply as appropriate	Side effects
	Lack of efficacy in reaching therapeutic targets
	Low adherence to treatment
IMPACT OF CONDITION In your clinical experience what effect does gout have on a patient's quality of life - range on a scale of 1 (minimal impact) to 4 (maximal impact) Select one reply	1
	2
	3
STRATEGIES TO IMPROVE OUTCOMES If you agree that gout is underestimated - what strategies would you propose to raise awareness and treatment? Select more than one reply as appropriate	Training for doctors on current guidelines and improving information for patients on for example improving adherence
	Better cooperation between general practitioners and specialists
	Improved therapeutic options
	I do not think gout is underestimated

Table A III - Questionnaire aimed at pharmacists

Question	Answers
STRATEGIES TO IMPROVE OUTCOMES Do you think gout is? Select one reply	Underestimated by patients Well recognized by patients Not well recognized by patients Largely ignored by patients
STRATEGIES TO IMPROVE OUTCOMES What information should the general population in your experience be supplied with about gout? Select more than one reply as appropriate	Lifestyle, diet Long-term risks and consequences Important of adhering to therapy Duration of treatment
MANAGEMENT AND TREATMENT You have a patient receiving chronic treatment with drugs to reduce uric acid levels (allopurinol or febuxostat). Do you ask if he/she has had a recent check of uric acid levels? Select one reply	Always Only if the patient raises it Sometimes Never
MANAGEMENT AND TREATMENT In patients with gout receiving treatment to reduce uric acid levels (allopurinol or febuxostat) which of the following statements do you agree with? Select one reply	Treatment can be interrupted in the prolonged absence of symptoms (>12 months) Treatment can be stopped when acute attacks of gout occur Treatment should provide prophylaxis for the first months of therapy Treatment must be continued for life
MANAGEMENT AND TREATMENT In your experience what are the main limitations in the treatment of hyperuricemia with currently available drugs? Select more than one reply as appropriate	Side effects Lack of efficacy in reaching therapeutic targets Low adherence to treatment Pharmacological interactions

Table A IV - Questionnaire aimed at patients without gout.

Question	Answer
Have you ever been diagnosed with gout?	If no continue with questions below
CAUSE What is gout? Select one reply	It is a painful form of inflammation of the joints It is a skin condition It is a form of diabetes I don't know
EPIDEMIOLOGY Do you think gout ...? Select more than one reply as appropriate	Affects more men than women Affects 1 in 100 Italians and the numbers affected are increasing yearly Is an uncommon form of inflammatory arthritis The number of patients affected is decreasing in Italy
RISK FACTORS What factors increase the risk of gout Select more than one reply as appropriate	High level of uric acid in the blood (hyperuricemia) Proven cases of gout in family Obesity, hypertension, diabetes and renal conditions. Diet containing high levels of protein (mean, shellfish, alcohol)
MANAGEMENT AND TREATMENT Which of the following do you measure regularly for general health? Select more than one reply as appropriate	Blood pressure Cholesterol Uric acid Glucose (blood sugar levels)
MANAGEMENT AND TREATMENT Has your doctor ever discussed with you uric acid levels in blood and risk of gout? Select one reply	Yes, my doctor has discussed the importance of keeping uric acid levels under control and the risk of developing gout No, my doctor has never discussed uric acid I don't know/Don't remember

Table A V - Questionnaire targeting patients with gout.

Question	Answer
Have you ever been diagnosed with gout?	If yes continue with questions below
CAUSE What are the most important causes of gout? Select one reply	High level of uric acid in the blood (hyperuricemia)
	High level of glucose in the blood (hyperglycemia)
	High level of cholesterol in the blood (hypercholesterolemia)
	Bad lifestyle (poor diet feeding, lack of exercise, etc.)
KNOWLEDGE OF CONDITION If not treated gout can cause ... Select more than one reply as appropriate	Permanent damage to the joints
	Kidney stones
	Cardiovascular conditions
	All of the above
MANAGEMENT AND TREATMENT When was the last time you had your uric acid levels measured? Select one reply	In the last 6 months
	In the last 12 months
	More than 12 months ago
	Can't remember
KNOWLEDGE OF CONDITION If you need information on gout who do you normally ask? Select more than one reply as appropriate	Family doctor
	Specialist
	Pharmacist
	I search for information myself for example on the internet
KNOWLEDGE OF CONDITION On what areas of gout would you like to have more information? Select more than one reply as appropriate	Causes of the condition
	Long-term consequences of the condition.
	Change in life style
	Available therapies
MANAGEMENT AND TREATMENT When do you take treatment? Select one reply	Only when I have an acute attack
	I take it continuously to reduce uric acid levels
	I take therapy to lower uricemia but only occasionally
	Don't know if the therapy I take is to lower uric acid levels

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