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GPs' management of polypharmacy and therapeutic dilemma in patients with multimorbidity:

a cross-sectional survey of GPs in France

Abstract

Background

GPs are confronted with therapeutic dilemmas in treating patients with multimorbidity and/or polypharmacy when unfavourable medication risk–benefit ratios (RBRs) conflict with patients' demands.

Aim

To understand GPs' attitudes about prescribing and/or deprescribing medicines for patients with multimorbidity and/or polypharmacy, and factors associated with their decisions.

Design and setting

Cross-sectional survey in 2016 among a national panel of 1266 randomly selected GPs in private practice in France.

Method

GPs' opinions and attitudes were explored using a standardised questionnaire including a case vignette about a female treated for multiple somatic diseases, sleeping disorders, and chronic pain. Participants were randomly assigned one of eight versions of this case vignette, varying by patient age, socioprofessional status, and stroke history. Backward selection was used to identify factors associated with GPs' decisions about drugs they considered inappropriate.

Results

Nearly all (91.4%) responders felt comfortable or fairly comfortable deprescribing inappropriate medications, but only 34.7% decided to do so often or very often. In the clinical vignette, most GPs chose to discontinue symptomatic medications (for example, benzodiazepine, paracetamol/tramadol) because of unfavourable RBRs. When patients asked for ketoprofen for persistent sciatica, 94.1% considered this prescription risky, but 25.6% would prescribe it. They were less likely to prescribe it to older patients [adjusted odds ratio (AOR) 0.48, 95% confidence interval (CI) = 0.36 to 0.63], or those with a stroke history (AOR 0.55, 95% CI = 0.42 to 0.72).

Conclusion

In therapeutic dilemmas, some GPs choose to prioritise patients' requests over iatrogenic risks. GPs need pragmatic implementation tools for handling therapeutic dilemmas, and to improve their skills in medication management and patient engagement in such situations.

Keywords

cross-sectional survey; general practice; multimorbidity; polypharmacy; risk–benefit ratio.

INTRODUCTION

Multimorbidity is commonly defined as the presence of multiple chronic conditions, none considered as the index condition. No clear consensus exists about the required number or nature of the diseases.¹ Managing patients with multimorbidity leads to polypharmacy, defined by the World Health Organization as *'the administration of many drugs at the same time or the administration of an excessive number of drugs'*.² Again, no consensus exists about the threshold number of medicines or the effect of temporality (simultaneous, cumulative, or continuous administration) in defining polypharmacy.³ Nevertheless, it clearly produces iatrogenic risks, including various drug–drug and drug–disease interactions.^{4,5} A prescription is considered inappropriate when the iatrogenic risks of the drug are greater than expected benefits – when it has an unfavourable risk–benefit ratio (RBR). The prevalence of inappropriate prescribing increases with the patient's age

and number of prescribed medications.⁶ Previous European studies report that the most common inappropriate prescriptions involve benzodiazepines and non-steroidal anti-inflammatory drugs (NSAIDs).⁷

Managing patients with polypharmacy requires regular review of medications, which should sometimes lead to detecting and deprescribing inappropriate medications. Qualitative studies about deprescribing by GPs in patients with multimorbidity and polypharmacy show that deprescribing is a challenge for both GPs and patients;^{8–10} typically, GPs face a choice between conflicting priorities, such as preservation of physiological functions and symptom relief.

This study's objectives were to:

- describe GPs' attitudes and representations about polypharmacy and deprescribing drugs;
- describe their decisions about prescribing/deprescribing among patients with

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How this fits in

Managing patients with polypharmacy, which is associated with risks of adverse drug reactions and potentially inappropriate medications, is a major challenge for GPs. This study suggests that physicians are likely to deprescribe medications they consider more risky than beneficial, but perceive several patient-related barriers. In some situations, they might choose to meet patients' demands for pain relief and prescribe medication, despite the iatrogenic risk. To avoid entanglement in these therapeutic dilemmas, GPs must acquire better skills in managing these situations and should be offered more pragmatic tools for handling them. They may benefit from collaboration with other healthcare professionals, especially those skilled in medication management in complex situations.

multimorbidity, polypharmacy, and potentially inappropriate prescribing; and

- study the factors associated with these choices.

METHOD

Study population

A national cross-sectional survey of a panel of GPs in private practice in France (the doctors who provide primary care to most people in France) aimed to study their perceptions, attitudes, and practices in relation to various public health problems. Details about how the panel was set up have already been published.¹¹ Briefly, the authors randomly selected GPs from the exhaustive French database of health professionals (Répertoire Partagé des Professionnels de Santé). The sampling was stratified for age (tertiles in the sampling base in 2012: <50 years, 50–58 years, and >58 years), sex, workload in 2012, and medical density of each GP's municipality of practice. The sample size was set so that the smallest resulting stratum contained at least 10 GPs. GPs with an average workload of <5.2 office consultations and house calls weekly were excluded. The selected GPs were then contacted between December 2013 and March 2014, and answered a short inclusion questionnaire concerning their professional characteristics (Table 1). GPs with no non-salaried activity and those planning to retire within 6 months, or exclusively practising alternative medicine (for example, acupuncture, homeopathy), were excluded. Eligible GPs who joined the

panel agreed to participate in five cross-sectional surveys (five waves) over a 3-year period.

Data collection procedure and questionnaire

This article is based on data collected by professional interviewers, using a computer-assisted telephone interview system, during the panel's fourth wave (May to July 2016).

A multidisciplinary group of experts developed a standardised questionnaire, based on a literature review and the results of two focus groups (one with four and one with five GPs). The questionnaire was pilot-tested for clarity and face validity among 50 GPs, and several questions were modified.

Multimorbidity was defined in the questionnaire as the presence of several chronic diseases in a single individual. The questionnaire addressed GPs' comfort with deprescribing medications they considered potentially inappropriate (4-point Likert scale from 'uncomfortable' to 'comfortable') and their self-reported frequency of initiating the deprescription of medications they considered potentially inappropriate (4-point Likert-like item: 'never', 'sometimes', 'often', and 'very often'), as well as their perceptions of patients' opinions about their medications, and of the applicability of guidelines in managing multimorbidity (4-point Likert scale from 'strongly disagree' to 'strongly agree'), and the estimated proportion of patients with multimorbidity on their lists. A 'don't know' answer was also included in each Likert-like item of the questionnaire. Eight versions of a case vignette of females with multimorbidity and polypharmacy (including lorazepam, amitriptyline, and paracetamol and tramadol) (Box 1) explored GPs' perceptions of the RBR of various commonly prescribed drugs and the decisions they would take managing such patients, including a new prescription for an NSAID (ketoprofen) the patient had recently begun as self-medication. The authors studied the importance of some of the criteria on which they report they would base these decisions with analogue scales (from 0 'not important' to 10 'very important').

Statistical analysis

Data were weighted to match the nationwide GP population for stratification variables.

The case vignette produced three dependent variables, which were GPs' decision to prescribe three different

Table 1. Characteristics of the sample from the national panel of GPs, France, May to September 2016

	Number ^a (n = 1183)	Frequency, ^a %
Stratification variables		
Age at inclusion, years (tertiles)		
<50	362	30.6
50–58	386	32.6
>58	435	36.8
Sex		
Female	363	30.7
Male	820	69.3
Workload (number of consultations/visits from December 2011 to November 2012)		
<3067	294	24.8
3067–6028	592	50.1
>6028	297	25.1
GP density of the municipality of practice		
< –19.3% of the national average	296	25.0
–19.3% to +17.7% of the national average	591	50.0
> +17.7% of the national average	296	25.0
Professional characteristics		
Proportion of patients with ALD^b (distribution of GPs in quartiles)		
1st quartile (low proportion of ALD patients)	240	22.7
2nd quartile	266	25.1
3rd quartile	274	25.9
4th quartile (high proportion of ALD patients)	279	26.3
Proportion of patients aged ≥70 years (distribution of GP in quartiles)^c		
1st quartile (low proportion of patients ≥70 years)	233	22.0
2nd quartile	258	24.4
3rd quartile	276	26.1
4th quartile (high proportion of patients ≥70 years)	292	27.6
Proportion of patients with low income (distribution of GP in quartiles)^d		
1st quartile (low proportion of patients with low income)	262	24.7
2nd quartile	262	24.7
3rd quartile	271	25.6
4th quartile (high proportion of patients with low income)	265	25.0
Practice of complementary medicine (for example, acupuncture, homeopathy)		
No	1030	87.0
Yes	153	13.0
Participated in a continuing medical education course in 2012		
No	133	11.2
Yes	996	84.2
Missing data	54	4.6
Reported proportion of patients with multimorbidity on GP's list (n = 1168)^e		
<25%	501	42.9
25–50%	497	42.5
>50%	170	14.6

^aDescriptive analyses (weighted data). ^bALD — chronic disease, according to national health insurance. Proportion of patients with ALD = 124 missing data. ^cProportion of patients aged ≥70 = 124 missing data. ^dProportion of patients with low incomes = 123 missing data. ^eReported proportion of patients with multimorbidity on GP's list (n = 1168) : means 15 'don't know' answers. ALD = affection de longue durée (long-term/major illness).

analgesic medications despite a negative perception of their RBR: paracetamol and tramadol, amitriptyline, and ketoprofen. The authors used multivariable logistic regression (backward selection procedure) adjusted for stratification variables to study

factors (characteristics of the case vignette patients, of GPs, and of their patient lists) associated with these dependent variables. The starting list of variables included: GPs' characteristics: stratification variables (age, sex, workload, density of

Box 1. Clinical vignette of females with several discordant diseases^a

Case vignette, part 1

One of your female patients, aged 54/82^b years, housewife (retired^c)/manager (retired^c),^b comes to see you to renew her prescription. She has chronic hypertension controlled with ramipril and hypothyroidism controlled with levothyroxine. She has been taking lorazepam for 3 years for frequent insomnia, and both paracetamol and tramadol and amitriptyline for frequent pain due to lumbar sciatica. She had an ischaemic stroke 2 years ago, for which she takes aspirin and rosuvastatin.^b Besides her pain, the clinical examination is normal.

Q1: Do you think that her prescription includes one or more medicines that present her with more risks than benefits?

Q1b: If yes, which?

Q2: Do you think that some of her prescription drugs should be stopped?

Q2b: If yes, which?

Case vignette, part 2

The patient no longer finds that the pain of lumbar sciatica is relieved at all by paracetamol and tramadol and amitriptyline 100 mg. She has been taking ketoprofen (an NSAID) at the maximum dose^c as self-medication for a week. She asks you to prescribe it for her now for several weeks, because it is the only medicine that relieves the pain.

Q3: Do you think that taking this NSAID may cause interactions with other medications?

Q4: Do you think that taking this NSAID puts this woman at risk?

Q5: In a situation such as this, would you choose to have her continue the NSAID by adapting the dose and/or the duration of the treatment?

Q6: For you, how important would each of the following elements be in deciding whether or not to prescribe this NSAID, on a scale of 0–10? (0 means 'not important', 10 means 'very important')

- The woman's preferences
- Risk–benefit ratio of the prescription
- Her understanding of the risks of the NSAID
- Presence of family or friends

^aDiseases that do not share underlying predisposing factors or pathogenesis. ^bEight versions of the case vignette were constructed; they varied according to three patient characteristics: age, socioprofessional status, and stroke history. The different versions were randomly attributed to the GPs being interviewed. ^cThe characteristic 'retired' was added for the females aged 82 years. NSAID = non-steroidal anti-inflammatory drug.

GP's municipality of practice), practice of some alternative medicine, attendance of continuing medical education (CME) training sessions. GPs' patient list characteristics: proportion of patients aged >70 years, with a chronic disease, with a low income, reported proportion of patients with multimorbidity. Case vignette variables: patients' age, socioprofessional status, stroke history (Table 2). These factors were chosen because of evidence that they may influence GPs' decisions in some complex situations.^{12,13}

All statistical analyses for the dependent variables described above and the importance scores for decision criteria were based on two-sided *P*-values, where *P*<0.05 indicates statistical significance. They were performed with SAS version 9.4.

RESULTS

Of the 3724 eligible GPs who were contacted, 1712 (46.0%) agreed to join the panel in 2014, and 1266 (73.9%) of these were still participating at the time of this survey (2016). Among the latter, 1183 (93.4%) completed the multimorbidity/polypharmacy questionnaire. Table 1 summarises the population's characteristics: 69.3% of the participants

were male, 36.8% were >58 years, and 14.6% reported multimorbidity among more than half their patient lists.

Nearly all (91.4%) responders felt 'comfortable'/'fairly comfortable' deprescribing inappropriate medications for patients with multimorbidity, but only 34.7% declared doing so 'often'/'very often' on their own initiative. At the same time, 61.8% considered that patients might perceive stopping a long-prescribed treatment as abandonment of their care (Figure 1), and 83.6% that their patients expected medication prescriptions from them; 73.3% agreed that their patients with multimorbidity sometimes doubted the utility of their medicines (Figure 1). Most GPs found that guidelines are helpful but not always well suited to managing multimorbidity, and that applying them to these cases sometimes resulted in increasing iatrogenic risks (Figure 1). And GPs' experience with patients with multimorbidity was not associated with their perceptions of applicability of guidelines in a context of multimorbidity (further data available from the authors upon request).

In response to the first part of the clinical vignette (Box 1, question 1) about the RBR of the prescription, 88.6% of GPs considered

Table 2. Characteristics of GPs and patients in the clinical vignette associated with the choices of prescribing or continuing various analgesic medicines, despite the GPs' negative evaluation of their risk-benefit ratios (logistic regressions, results of backward selection)

Variables	Paracetamol and tramadol (n= 1168)		Amitriptyline (n= 1183)		NSAID (ketoprofen) (n= 1183)	
	AOR (95% CI)	P-value	AOR (95% CI)	P-value	AOR (95% CI)	P-value
Stratification variables						
Age (ref <50 years)						
50–58 years	0.77 (0.54 to 1.12)	0.17	0.85 (0.57 to 1.26)	0.41	0.91 (0.65 to 1.26)	0.57
>58 years	0.73 (0.47 to 1.13)	0.16	0.89 (0.56 to 1.43)	0.64	1.65 (1.16 to 2.36)	0.006
Sex (ref Male)						
Female	1.13 (0.80 to 1.61)	0.48	1.28 (0.88 to 1.86)	0.20	0.87 (0.64 to 1.18)	0.37
Workload (ref <3067 consultations and visits)						
3067–6028	1.22 (0.79 to 1.89)	0.36	1.42 (0.88 to 2.27)	0.15	1.05 (0.73 to 1.51)	0.80
>6028	1.26 (0.77 to 2.06)	0.36	1.21 (0.70 to 2.11)	0.49	0.93 (0.61 to 1.41)	0.73
GP density of the municipality of practice (ref <-19.3% of the national average)						
-19.3% to +17.7% of the national average	0.72 (0.50 to 1.04)	0.08	1.14 (0.75 to 1.72)	0.54	0.86 (0.62 to 1.18)	0.35
> +17.7% of the national average	0.75 (0.48 to 1.17)	0.20	1.28 (0.79 to 2.07)	0.32	1.03 (0.71 to 1.50)	0.86
Professional characteristics						
Practice of complementary medicine (for example, homeopathy, acupuncture) (ref 'No')						
Yes	1.62 (1.01 to 2.58)	0.04		NR		NR
Reported proportion of patients with multimorbidity on GP's list (ref <25%)						
25–50%	0.98 (0.70 to 1.37)	0.90		NR		NR
>50%	0.51 (0.28 to 0.92)	0.02		NR		NR
Patients' characteristics						
Age, years (ref 54 years)						
82		NR		NR	0.48 [0.36 to 0.63]	<0.001
History of stroke (ref 'No')						
Yes		NR	0.63 [0.45 to 0.90]	0.01	0.55 [0.42 to 0.72]	<0.001

AOR = adjusted odds ratio. NR = not retained in the backward selection procedure. NSAID = non-steroidal anti-inflammatory drug. Ref = reference.

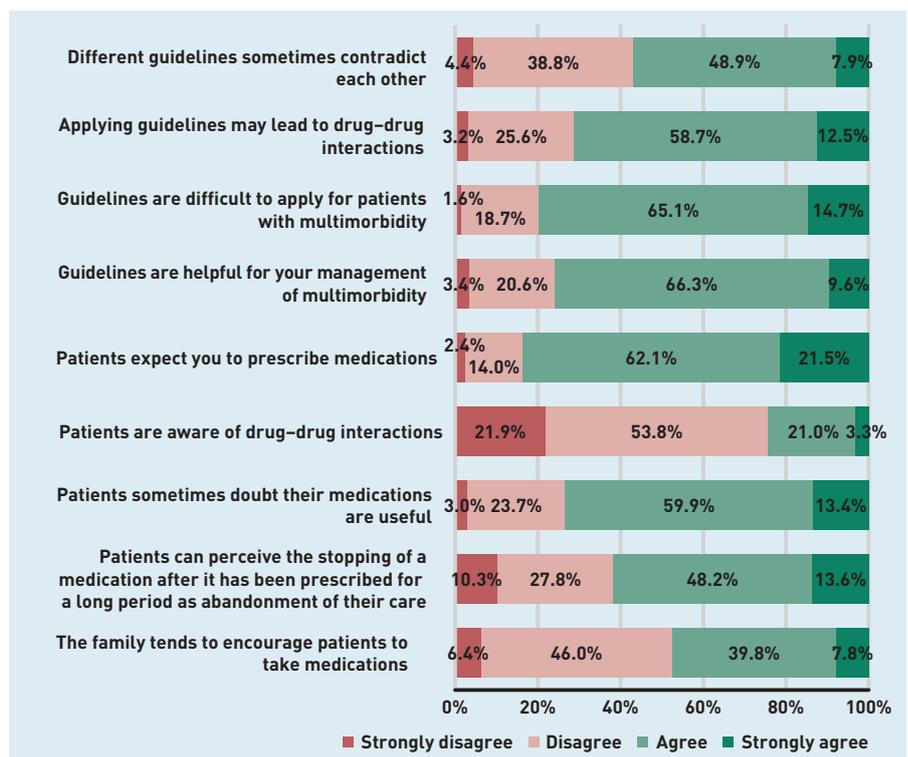


Figure 1. GPs' representations of applicability of guidelines in a context of multimorbidity and of patients' perceptions about prescribing and de-prescribing of their medications.

Table 3. GPs' choices of prescribing and deprescribing related to their perception of the RBR for females with multiple chronic diseases and multiple prescription drugs^a

Treatment	GP's judging the RBR to be unfavourable ^b	GP's reporting that stopping is required ^c	GP's choosing not to stop the drug while judging its RBR to be unfavourable
	n/N(%)	n/N(%)	n/N(%)
Lorazepam	929/1025 (90.6)	934/1032 (90.5)	70/1183 (5.9)
Paracetamol and tramadol	697/1016 (68.6)	562/1011 (55.6)	176/1183 (14.9)
Amitriptyline	785/1010 (77.7)	673/1006 (66.9)	147/1183 (12.4)
Rosuvastatin ^d	135/477 (28.4)	124/487 (25.4)	38/1183 (3.2)

^aWeighted data. ^bAmong the GPs reporting that some prescription drugs presented more risks than benefits (88.6% of all responding GPs). ^cAmong the GPs reporting that some prescription drugs should be stopped (90.0% of all responding GPs). ^dAmong the GPs questioned about a version of the clinical vignette, including a history of stroke. RBR = risk-benefit ratio.

that the prescription proposed included one or more drugs with an unfavourable RBR, and 90.0% that some prescribed drugs should be stopped (Box 1, question 2): lorazepam (90.5% of GPs), amitriptyline (66.9%), the combination of paracetamol and tramadol (55.6%), and — for females with a stroke history — rosuvastatin (25.4%) (Table 3); <5% of GPs considered that other medications (ramipril, levothyroxine, and aspirin) had an unfavourable RBR, and <2% that these should be stopped.

Some GPs did not report that they would stop treatments with what they judged to be an unfavourable RBR: 14.9% for paracetamol and tramadol, and 12.4% for amitriptyline (Table 3).

For a request that ketoprofen be prescribed (clinical vignette, Box 1, part 2), 85.4% of GPs stated that it might cause interactions

with other prescription drugs, and 94.1% stated that it could be risky for the patient. Nonetheless, among those GPs who considered ketoprofen risky, 25.6% chose to prescribe it, while adapting its dose or the length of the prescription (data not shown in tables).

GPs considered the RBR to be the most important criterion in deciding whether or not to prescribe a medication. The mean degree of importance was 7.9 out of 10 (95% CI = 7.78 to 8.05) followed by the patients' understanding of its risks at 7.1 out of 10 (95% CI = 6.94 to 7.27) (Table 4). The patients' preferences and the presence of family members were more important criteria for the GPs deciding to continue an NSAID (Table 4).

Results of the regression analyses of the three dependent variables (decisions to maintain paracetamol and tramadol or amitriptyline and to prescribe ketoprofen, despite the GPs' negative evaluation of their RBRs) are presented in Table 2. The continuation of paracetamol and tramadol was significantly more frequent for GPs who practised a form of complementary medicine some of the time, and significantly less frequent for those with high proportions of patients with multimorbidity. Maintaining amitriptyline was significantly less frequent when the case vignette patient had a history of stroke, but was not associated with the GP's characteristics. Prescribing ketoprofen was significantly less frequent for older females or those with a history of stroke, and significantly more frequent for GPs aged >58 years.

DISCUSSION

Summary

Most GPs answered that they were comfortable with deprescribing medicines

Table 4. Importance of the criteria on which GPs based their decision about the continuation or discontinuation of the NSAID^a

Criteria for choosing	Mean ^b (95% CI)	n	GP's choice		P-value ^c
			Continuation of NSAID, mean (95% CI)	Discontinuation of NSAID, mean (95% CI)	
Risk-benefit ratio of the prescription (n = 1173)	7.9 (7.78 to 8.05)	1162	7.3 (7.05 to 7.48)	8.2 (8.04 to 8.37)	<0.001
Patients' understanding of the risks of the NSAID (n = 1175)	7.1 (6.94 to 7.27)	1162	7.3 (7.02 to 7.52)	7.0 (6.81 to 7.23)	0.14
The patients' preferences (n = 1174)	3.2 (3.05 to 3.36)	1163	4.2 (3.93 to 4.47)	2.7 (2.56 to 2.92)	<0.001
Presence of family/friends (n = 1170)	3.4 (3.19 to 3.56)	1160	4.0 (3.62 to 4.31)	3.1 (2.89 to 3.32)	<0.001

^aScore assessed from 0–10 (weighted data). ^bAmong all responding GPs. ^cTwo-sample t-test. CI = confidence interval. NSAID = non-steroidal anti-inflammatory drug.

they consider inappropriate, but only a minority reported doing this often or very often. For most GPs, patients ask for prescriptions and perceive deprescribing as an abandonment of care. For patients with polypharmacy for multiple discordant chronic diseases, the GPs mostly considered that symptomatic medications (lorazepam, amitriptyline, and paracetamol and tramadol) were inappropriate and should be stopped. Nonetheless, some decided to continue analgesic drugs despite a perceived unfavourable RBR. Moreover, to relieve pain considered too intense, a quarter were willing to prescribe an NSAID at a modified dosage, despite the potential iatrogenic risk. The RBR of the prescription and the patient's understanding of the risk were key elements of their decisions.

Strengths and limitations

To the authors' knowledge, very few quantitative studies have explored GPs' perceptions and attitudes about their patients with multimorbidity and polypharmacy, regardless of their age. The sample size was substantial, and weighting it produced a representative sample of all GPs for demographic and work characteristics.

The method of clinical vignettes makes it possible to set (and thus control) patients' characteristics, and therefore to avoid bias due to unmeasured factors encountered in real situations (for example, consultation time).^{14,15} The design of this survey, based on computer-assisted telephone interviews, did not allow the authors to include more case vignettes for different clinical situations. Although the authors' case vignette represents a clinical situation frequently encountered in general practice, regardless of the setting, it cannot explore every complex situation: caution is needed when generalising the results to the wider clinical context.¹⁶ More importantly, this approach allowed the authors to study the variability of GPs' practices according to important patient characteristics.¹⁷ Nonetheless, because some factors likely to influence treatment decisions cannot be taken into account in a fictitious case report (for example, quality of the physician-patient relationship), some of the time the authors probably measured what GPs thought should be done rather than what they would actually do in a real situation.

Finally, social desirability bias cannot be ruled out, and might have induced both an overestimate of reported deprescribing practices and an underestimate of GP risk taking in some situations.

Comparison with existing literature

A correlation between the number of medicines prescribed and the prevalence of potentially inappropriate prescribing has been shown among older people.^{6,7} This prevalence can reach 83% in older patients in institutions; these figures vary according to the studies and criteria used.⁷ The authors' results, which show that only a minority (35%) of GPs often take the initiative in deprescribing, are generally consistent with this observation.

When physicians judge that a medication is inappropriate, they face various obstacles in deprescribing it. Qualitative studies of GPs frequently mention the difficulty of explaining the issues of polypharmacy to patients and of making them accept the deprescription of some medicines.^{8,10,18}

The current results confirm some representations of physicians observed in those studies about patient attitudes to taking and stopping medicines: patients are perceived to be unaware of drug-drug interactions and to interpret deprescribing them as abandonment of care. These representations may constitute an obstacle to deprescribing. Nonetheless, studies of patients' opinions and perceptions about these topics show that, although these obstacles exist, they can be overcome, especially through a relationship of trust between the patient and the GP.^{8,19,20}

In this study, analgesic and anti-inflammatory treatments were widely considered as potentially inappropriate. Nonetheless, some physicians chose to prescribe ketoprofen or to not prescribe amitriptyline and paracetamol and tramadol in the vignette. For patients with multimorbidity and polypharmacy, GPs must often choose between strict adherence to guidelines to minimise iatrogenic risks, and patients' request for symptomatic relief. When these two conflict, physicians face a treatment dilemma. These results thus suggest that physicians sometimes follow the principle of 'satisficing' in these situations.^{21,22} In accordance with this principle, they find a solution that is both satisfactory and sufficient among the options available in a particular situation for a particular patient. For example, GPs may negotiate the dose or duration of the prescription with their patients when it is potentially inappropriate; they may also decide to continue the treatment despite the potential risk if the clinical state is stable and the treatment is providing a benefit. In the clinical vignette, to decide whether or not to prescribe the NSAID, GPs reported taking into account the patients' understanding of

the risks involved, their preferences, and the possibility of monitoring by the family. One hypothesis is that in treatment dilemmas, physicians are more inclined to include the patient in the decision making.²³ This study also suggests that, when facing these dilemmas, GPs take into account factors that may influence the iatrogenic risk (for example, prescribing ketoprofen less often for patients treated with aspirin for a history of stroke). The higher propensity of the older GPs to prescribe the NSAID might be related to their lower risk aversion and their longer practice experience.²⁴ But more experience of patients with multimorbidity (Table 2) was also associated with greater propensity to deprescribe paracetamol and tramadol. Finally, GPs' opinions of the usefulness of guidelines in managing patients with multimorbidity are in line with the finding that recommendations from different guidelines sometimes conflict, and that applying them strictly can lead to iatrogenic risks.²⁵

GPs need better support and skills to avoid entanglement in these therapeutic dilemmas. The literature on interventions for multimorbidity and polypharmacy is sparse. As several authors have noted,^{26,27} current guidelines are often not applicable in these complex situations and do not offer enough pragmatic implementation tools for handling them; participants in this study shared this view. Developing more appropriate and flexible guidelines for primary health care should be a priority. The results show that GPs are likely to benefit from better training in involving patients in therapeutic decisions. This could include: helping patients to express their priorities and/or preferences; making them aware of the complexity of their health situation and the RBR of their medications; taking steps to ensure family support; and encouraging them to take part in treatment decisions.^{28,29} Thus, training programmes to develop GPs' communication skills, adapted to time constraints, are needed and should be evaluated.²³ Finally, GPs might benefit from collaboration with other healthcare professionals (specialists, pharmacists, or nurse practitioners), especially skilled in medication management in complex situations.³⁰

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Implications for research and practice

These results show that in some complex situations GPs report that they would maintain prescriptions despite their iatrogenic risk to respond to their patient's demand. This suggests that

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