

## General practitioners' perspectives on the use of nonpharmacological home remedies in two regions in Switzerland and France

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### Summary

**BACKGROUND:** Nonpharmacological home remedies offer the potential for easily accessible and well-accepted management of common disorders in general practice. We aimed to assess general practitioners' (GPs') perspectives on these remedies in two French-speaking European countries.

**METHODS:** In 2017, we conducted a cross-sectional study among community-based GPs in the Geneva (Switzerland) and Grenoble (France) regions. They completed an anonymous questionnaire about forty common home remedies. We asked how often they prescribed each type of remedy and how effective they found them. Descriptive statistics (proportions with 95% confidence intervals [CIs]) were used to summarise the data.

**RESULTS:** 349 GPs returned the questionnaire (172 of 500 Swiss and 177 of 500 French; participation rate 35%; male:female ratio 1:1). In the week before the study, GPs had advised 8.2% patients to use at least one remedy. The remedies that were most frequently prescribed were saline water to treat common colds (69%), mobilising and/or stretching exercises for low back pain (67%) and applying cold water or cold pads for burns (60%). The remedies that were perceived to be most effective were squatting during defaecation as a treatment for constipation (89%), phoning a traditional healer to treat skin diseases or burns (84%) and applying cold water or pads for burns (82%).

**CONCLUSIONS:** These findings suggest that GPs find certain nonpharmacological remedies very useful, even though they do not frequently prescribe them in practice. These remedies should receive more attention from researchers, as they could be considered by GPs as useful to treat a large number of benign conditions in primary care.

**Keywords:** home remedies, general practitioners, views, practice, perspective

### Background

In general practice, patients often report using nonpharmacological home remedies (NPHRs) in addition to or instead of treatments advised by the general practitioner (GP) [1–6]. Although in Western cultures traditional medicine is less frequently cited, doctors in these countries sometimes advise the use of more traditional medical practices.

Though a large amount of lay information on NPHRs is available to the public in the press or on the Internet [1], to the best of our knowledge, only a few researchers have addressed this topic and published studies in scientific journals, and fewer still have explored the theme of Western culture traditional home remedies [1, 3, 6, 7]. Opinion polls carried out in Western countries tend to show that a large part of the population regularly uses NPHRs and that patients would like to be better informed by their GP on the use of these remedies [1]. However, very little attention is given to NPHRs in pre- and post-graduate medical training [1]. Patients often feel that their GP lacks knowledge on NPHRs [1, 8], which could encourage them to seek information from family members, relatives, friends or acquaintances, rather than from their GP. This can *in fine* alter the patient-doctor therapeutic relationship [1, 6].

In some cases, NPHRs have been described as dangerous and have been thought to interact with other treatments [9–11]. Most NPHRs, however, offer the potential for easy, cheap and well-accepted management of common disorders in general practice. They could thus play an important role in reducing risks related to polypharmacy, inappropriate prescriptions and adverse drug reactions [12–15]. This is especially important in the context of multiple chronic diseases (multimorbidity) linked to increasing age [16–18].

In this exploratory study, we aimed to fill existing knowledge gaps and add evidence on NPHR prescription by family doctors, by assessing GPs' views and practices in relation to NPHRs in two French-speaking European countries.

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## Methods

### Study site and study population

A random sample of 500 GPs practicing in the canton of Geneva and all 500 GPs practicing in the Grenoble region (Métropole Grenoble-Alpes) were selected from the list of the members of the professional organisations of Geneva- and Grenoble-based physicians. Paediatricians and residents (hospital-based GPs) were not eligible for the study. These 1000 doctors were invited to participate by post, in order to recruit 400 participating GPs (expected participation rate: 40%). Reminder messages (maximum twice per GP) were sent to improve response rates.

### Definition of “nonpharmacological home remedy”

There is currently no formal and universal definition of the concept of home remedies, which is commonly used in everyday language and could mean different things to patients, GPs and researchers [1]. Even among researchers, there is no consensus on which definition of the term “home remedies” or “nonpharmacological home remedies” they should rely on, which probably explains why this concept is often poorly or not defined in scientific papers [1, 19]. For this study, NPHRs were thus defined by consensus within the research team as: home remedies that (i) cannot be obtained in a commercially available drug formulation and (ii) do not require external help from therapists. As a result, we excluded medicinal products such as over-the-counter drugs and herbal therapies (for example, cranberry preparations), as well as treatments provided by healthcare providers, such as physiotherapy, osteopathy and hypnosis, and a large number of complementary and alternative medicine (CAM) methods, such as acupuncture, anthroposophical medicine and neural therapy.

### Data collection

Data were collected from December 2016 until June 2017. Selected GPs were contacted by post, and informed about the aim of our study and practical procedures for completing the questionnaire and sending it back using a stamped return envelope. The questionnaire contained sociodemographic questions (age, gender, training country, practice location (urban or rural), number of working days per week, number of working years in private practice), as well as questions about the prescription of 40 different NPHRs (see supplementary table S1 in appendix 1). GPs were asked to state how effective they considered each of these NPHRs (response options: not effective, moderately effective or very effective) and how often they prescribed them (response options: never prescribed, sometimes prescribed or often prescribed). GPs were also asked how many patients they attended the previous week, and how often they had prescribed at least one NPHR in the previous week. For these two questions, we restricted the responses to a limited time period (previous week) to decrease recall bias. The list of relevant NPHRs was based on our literature review as well as on discussions within the research team (six researchers also working as GPs in Geneva, Lyon and Grenoble) and with twelve GPs practicing in France who had a particular interest in primary care research. The list was then modified according to the suggestions of eight GPs participating in quality circle meetings in Geneva (regular meetings where problems of daily work

are discussed in a structured way). Disagreements were resolved through discussion and consensus within the research team. Finally, the questionnaire and the list of NPHRs were pretested by five GPs in order to identify any difficulties doctors might meet in responding to the questions or any problems in understanding the meaning of one or several NPHRs.

### Confidentiality, consent and ethical approval

All collected data remained confidential. Each GP was represented by a unique anonymous identifier. Only the research assistant knew the names and participation codes of the GPs taking part in our study; they were not known at any time by the researchers who analysed the study data. Tacit consent was presumed from the doctors if they sent back the completed questionnaire. A waiver from obtaining informed consent was granted by the Research Ethics Committee of Geneva and Grenoble (approval by the Ethics Committee is not necessary under Swiss and French law for studies in which no personal health-related data are collected).

### Statistical analyses and sample size

We described GPs' sociodemographic characteristics using frequency tables for categorical variables and medians and interquartile ranges (IQRs) for numerical data (non-normal variables). For each of the 40 NPHRs, we computed the proportion of GPs who often prescribed them, and used chi-squared tests to compare the proportion of GPs who found them not, moderately or very effective within the subgroup of GPs frequently prescribing the remedy in question. We also computed the median number (IQR) of NPHRs frequently prescribed by GPs (non-normal variable), and studied the association between the number of NPHRs and GPs' characteristics, using Wilcoxon rank-sum tests for binary variables and the Kruskal-Wallis test for categorical variables (age group); we carried out negative binomial regression (over-dispersion of the data) to simultaneously adjust the data for GPs' characteristics.

In addition, we computed the prevalence of prescription of NPHRs by dividing the number of patients having received at least one NPHR during the previous week by the total number of patients seen during the same period. For example, if a GP proposed one or more NPHRs to 10 patients during the previous week and provided consultations to 100 patients during the same period, the prevalence of prescription of NPHR would be 10% (10/100). We dichotomised the prevalence of prescription into two categories: GPs prescribing these remedies to  $\geq 10\%$  (“frequent prescription”) and  $< 10\%$  of their patients (“infrequent prescription”). We explored the association between frequent prescription and GPs' characteristics using univariate and multivariate logistic regression. The cut-off point was set at 10%, as this was the median of the distribution.

We anticipated a mean prevalence of NPHR prescription of about 50% on the basis of previous surveys in relation to nonpharmacological treatments [1, 3, 6, 20], and wanted to be able to provide a 95% confidence interval width of about 0.10 for the estimate. Given the formula for the estimation of a proportion, the minimal required sample size was 384, where  $p = 0.5$ , which was rounded up to 400. Therefore, given the expected participation rate

(40%), 1000 GPs had to be invited to participate. Statistical significance was set at a two-sided p-value  $\leq 0.05$ . We carried out all statistical analyses with STATA version 12.0.

## Results

A total of 349 GPs participated in the study (participation rate 35%). **Table 1** presents their main sociodemographic characteristics. The participation was well-balanced in terms of gender (male/female ratio 1:1) and country of practice (France 51%). They were experienced GPs (nearly half of them were more than 55 years old with a median number of 18 working years in private practice). The large majority of the practices (95%) were located in the city. GPs had prescribed at least one NPHR to 8.2% of their patients seen in consultation during the previous week; the median number of patients having received at least one NPHR during the previous week was 5 (IQR 8) and the median number of patients seen during the same period was 65 (IQR 40).

For Switzerland, our sample of GPs appeared to be similar in age, but less in gender, to all community-based doctors practising in Switzerland (2017: mean age 55 years in Switzerland; median age slightly less than 55 years in our sample of GPs practising in Geneva; men 62% in Switzerland vs 48% in Geneva) [21]. In contrast, in France, our sample of GPs appeared to be relatively similar in age and in gender to all GPs practising in the department of Isère in France (2015: mean age 51 years in Isère; median age slightly less than 55 years in our survey of GPs practising in Grenoble; men 48% in Isère vs 51% in Grenoble) [22].

**Table 2** presents the list of the 40 NPHRs with the proportion of GPs who frequently prescribed each of them, as well as their perceived effectiveness. The remedies that were most frequently prescribed were nasal saline in the case of colds (69%), advice to do mobilising and/or

stretching exercises to treat low back pain (67%) and applying cold water or cold pads in the case of burns (60%). The remedies that were perceived to be most effective were squatting during defaecation to treat constipation (89%), phone calls to a traditional healer – called “coupe-feu” (cut-fire) in French – to ease the pain and accelerate healing of burns or other skin conditions (84%), and cold application to treat burns (82%). Note that only eight of the 40 remedies were perceived to be effective by fewer than 50% of GPs who frequently prescribed them (all other remedies were perceived to be effective by at least 50% of GPs who prescribed them).

**Table 3** shows the median number of NPHRs frequently prescribed according to the GPs' main sociodemographic characteristics. Overall, GPs prescribed a median of eight of these remedies (IQR 7). In multivariate analysis, only female gender was associated with the number of NPHRs (seven NPHRs prescribed by male GPs vs nine by females,  $p = 0.001$ ). Finally, **table 4** presents the sociodemographic factors associated with the frequency of prescription of NPHRs. In multivariate analysis, again only female gender was independently associated with the outcome (odds ratio [OR] 2.64, 95% CI 1.56–4.43;  $p < 0.001$ ).

## Discussion

### Main findings

We found that our sample of GPs had advised only a minority of patients (8%) to use an NPHR in the week prior to the survey. The remedies that were the most often prescribed were nasal saline to treat colds (69%), mobilising and/or stretching exercises for low back pain (67%) and application of cold to burns (60%), whereas the remedies that were perceived to be most effective were squatting during defaecation as a treatment for constipation (89%), phoning a traditional healer to treat skin diseases or burns (84%) and applying cold for burns (82%). In multivariate analyses, only female gender was associated with a higher frequency of prescription (OR 2.64, 95% CI 1.56–4.43).

### Comparison with existing literature

As stated in the methods section, there is currently no formal and universal definition of the concept of home remedies, which makes it difficult to compare our findings with existing literature [1, 19].

In countries with lower income levels and traditional cultures, a majority of the population reports using home remedies [4, 5]. In high-income countries, we have more of a mixed picture. A relatively recent study carried out in Germany (480 patients from 37 GP practices) showed that approximately 80% of patients used home remedies [1]. Only 25% of these patients sought information on these remedies from their GP, the majority having received information from family members or from books, magazine and the media. According to another study, a population-based US survey ( $n = 2107$ ), 35% of African Americans reported using home remedies [6].

The fact that GPs had prescribed NPHRs to only a small subgroup of patients is not really surprising; for example, in a study assessing the quality of management of sore throats in the UK ( $n = 435$ ), Cox and colleagues showed

**Table 1:** General practitioners' sociodemographic characteristics ( $n = 349$ ).

Characteristics	n* (%)
Gender ( $n = 348$ )	
Male	173 (49.7)
Female	175 (50.3)
Age group (years) ( $n = 308$ )	
<35	19 (6.2)
35–44	59 (19.2)
45–54	85 (27.6)
55–64	116 (37.7)
>64	29 (9.4)
Country of practice ( $n = 349$ )	
Switzerland	172 (49.3)
France	177 (50.7)
Location of practice ( $n = 308$ )	
Urban	293 (95.1)
Rural	15 (4.9)
Country in which he/she studied ( $n = 308$ )	
Switzerland	139 (45.1)
France	157 (51.0)
Other country	12 (3.9)
	<b>Median (IQR)</b>
Number of half-days worked per week ( $n = 302$ )	8 (3)
Number of working years in private practice ( $n = 308$ )	18 (21)

IQR = interquartile range \*  $n$  = number with factor considered

**Table 2:** Frequently prescribed nonpharmacological home remedies (NPHRs)<sup>a</sup> and perceived effectiveness if frequently prescribed, as well as the top five most frequently prescribed and the top five most effective NPHRs.

Medical condition (symptom or disease) <sup>f</sup>	NPHR	NPHR frequently prescribed n/N (%)	Perceived effectiveness of NPHR, if frequently prescribed n (%) <sup>g</sup>		
			Ineffective	Moderately effective	Effective
<b>Cardiovascular</b>					
Postural dizziness	Consuming salted broths	67/290 (23.1)	0	31 (46.3)	36 (53.7)
Postural dizziness	Drinking large glasses of water in one go	15/274 (5.5)	0	11 (73.3)	4 (26.7)
<b>Mucocutaneous</b>					
Burn	Applying butter	1/265 (0.4)	0	0	1 (100)
Burn	Applying cold <sup>h,fl</sup>	191/320 (59.7)	0	35 (18.3)	156 (81.7)
Burn (or other skin condition)	Phoning a healer or a "coupe-feu" (cut-fire) <sup>fl</sup>	45/303 (14.9)	0	7 (15.6)	38 (84.4)
Oral thrush	Using bicarbonate mouth rinses	142/320 (44.4)	0	58 (40.9)	84 (59.2)
Pruritus ani	Cleaning anus with water after each bowel movement (for example, using the shower head)	41/300 (13.7)	1 (2.4)	17 (41.5)	23 (56.1)
Wart	Using autosuggestion techniques (keep repeating that the wart(s) will heal and fade)	12/283 (4.2)	0	4 (33.3)	8 (66.7)
<b>Digestive</b>					
Irritable bowel syndrome (or symptom of)	Following a lactose free diet	32/310 (10.3)	0	13 (40.6)	19 (59.4)
Irritable bowel syndrome (or symptom of)	Using colon hydrotherapy (colon cleansing using tubes to inject water)	3/274 (1.1)	0	0	3 (100)
Constipation	Squatting during defaecation using a toilet stool <sup>fl</sup>	27/154 (17.5)	0	3 (11.1)	24 (88.9)
Diarrhoea	Following a constipating diet <sup>s</sup>	174/325 (53.5)	1 (0.6)	86 (49.4)	87 (50)
<b>Other</b>					
At-home fall in the elderly	Training with a pedal exerciser or a stationary bicycle (exercise bike)	39/295 (13.2)	0	16 (41.0)	23 (59.0)
Teething pain in babies	Wearing an amber necklace	4/267 (1.5)	0	2 (50)	2 (50)
Excess of weight	Walking dogs	131/325 (40.3)	5 (3.8)	54 (41.2)	72 (55.0)
Renal failure	Increasing fluid intake	138/319 (43.3)	2 (1.5)	70 (50.7)	66 (47.8)
Seasickness or motion sickness	Eating ginger	14/257 (5.5)	0	8 (57.1)	6 (42.9)
Migraine headache	Practicing relaxation techniques (without the help of a therapist)	62/317 (19.6)	1 (1.6)	25 (40.3)	36 (58.1)
<b>General condition</b>					
Fatigue	Following a diet rich in vitamin C	46/321 (14.3)	2 (4.3)	24 (52.2)	20 (43.5)
Depression	Eating chocolate	19/302 (6.3)	0	9 (47.4)	10 (52.6)
<b>Gynaecology</b>					
Breast engorgement during breastfeeding	Applying poultices made of parsley and/or cabbage rolls	10/259 (3.9)	0	2 (20.0)	8 (80.0)
Morning sickness during pregnancy	Eating ginger	19/247 (7.7)	0	9 (47.4)	10 (52.6)
<b>"Infection"</b>					
Sore throat	Drinking lemon tea (with or without honey and milk)	97/320 (30.3)	0	55 (56.7)	42 (43.3)
Sore throat	Breathing through a wet interface (compress or handkerchief)	3/266 (1.1)	0	0	3 (100)
Upper respiratory tract inflammation	Using a humidifier	127/329 (38.6)	0	54 (42.5)	73 (57.5)
Upper respiratory tract inflammation	Increasing fluid intake	85/309 (27.5)	2 (2.4)	42 (49.4)	41 (48.2)
Cough	Eating honey	93/322 (28.9)	1 (1.1)	53 (57.0)	39 (41.9)
Cold	Instilling saline water into the nostrils <sup>s,fl</sup>	237/345 (68.7)	2 (0.8)	66 (27.9)	69 (71.3)
Virus disease	Drinking cider vinegar	7/258 (2.7)	2 (28.6)	1 (14.3)	4 (57.1)
Virus disease	Following a diet rich in vitamin C	62/300 (20.7)	3 (4.8)	29 (46.8)	30 (48.4)
<b>Musculoskeletal</b>					
Arthralgia	Applying poultices made of cabbage rolls	5/257 (2.0)	0	2 (40.0)	3 (60.0)
Neck pain, cervical osteoarthritis	Doing mobilising and/or stretching exercises	118/321 (36.8)	1 (0.9)	47 (39.8)	70 (59.3)
Nocturnal leg cramp	Putting Marseille soap into or under the bed	11/274 (4.0)	0	6 (54.5)	5 (45.5)
Plantar pain	Foot massaging using a ball	53/293 (18.1)	0	16 (30.2)	37 (69.8)
Knee pain, osteoarthritis of the knee	Training with a stationary bicycle (exercise bike)	105/319 (32.9)	1 (0.9)	40 (38.1)	64 (61.0)
Low back pain	Swimming (front and/or back crawl)	162/333 (48.7)	0	51 (31.5)	111 (68.5)
Low back pain	Doing mobilising and/or stretching exercises <sup>s</sup>	227/339 (67.0)	0	70 (30.8)	157 (69.2)
Myalgia	Using heat therapy (heat from a hair dryer or another heat source)	80/292 (27.4)	0	25 (31.3)	55 (68.7)
Patellofemoral pain syndrome	Strength training of the thigh muscles (quadriceps) <sup>s,fl</sup>	183/319 (57.4)	0	46 (25.1)	137 (74.9)
Patellofemoral pain syndrome	Cycling	119/307 (38.8)	0	40 (33.6)	79 (66.4)

Medical condition (symptom or disease) <sup>†</sup>	NPHR	NPHR frequently prescribed n/N (%)	Perceived effectiveness of NPHR, if frequently prescribed n (%) <sup>‡</sup>		
			Ineffective	Moderately effective	Effective
* NPHRs that were described by general practitioners as being often prescribed.					
† Numbers in denominator do not add up to 349 because of missing data.					
‡ All p-values were <0.001 (chi-square tests).					
§ "Top five" most frequently prescribed NPHRs were: 1. instilling saline water into the nostrils; 2. doing mobilising and/or stretching exercises; 3. applying cold; 4. strength training of the thigh muscles (quadriceps); 5. following a constipating diet.					
¶ "Top five" most effective NPHRs, if frequently prescribed by at least 10% of GPs: 1. Squatting during defaecation using a toilet stool; 2. phoning to a healer or a "coupe-feu" (cut-fire); 3. applying cold; 4. strength training of the thigh muscles (quadriceps); 5. Instilling saline water into the nostrils.					

that nurses tended to give more frequent advice about home remedies than GPs (76 vs 54%) [3].

For the list of the most prescribed remedies, it is difficult to compare our findings with other published studies because of differences in design; in addition, the list of NPHRs on which surveys rely varied from one study to another. In the German study by Parisius, 49 home remedies were retrieved from the handbook "Home Remedies in Modern Medicine" and the study population was different (GPs in our study, patients in Parisius' study) [1]. In Parisius' study, the most frequently used home remedies were inhalations, hot lemon drinks, honey, camomile tea and chicken soup, which is slightly different from our findings. However, the most frequently treated health complaint was similar in the two studies: colds (sore throat, cough and runny/stuffed nose in Parisius' study, vs colds *per se* in

our study). In another relatively old Canadian study (524 adult patients), the most frequently used home remedies were teas, honey, hot lemon drinks and hot steam inhalations [23].

GP gender was the only factor independently associated with frequency of prescription of NPHRs. Compared with their male counterparts, female doctors are known to have more positive attitudes towards alternative therapies and are more likely to consider them to be effective [24, 25]. Several studies have also shown that home remedies were used more frequently by female patients [1, 26, 27]. These gender differences might be due to women's role as family caregivers (women often assume the "healing role" for the whole family) and to their stronger implications in health-care (women are more likely than men to seek active participation in their healthcare decisions) [6].

**Table 3:** Frequently prescribed non-pharmacological home remedies (NPHRs)<sup>†</sup>, stratified by general practitioners' sociodemographic characteristics.

Characteristics	Median number of NPHRs (IQR)	Unadjusted p-value <sup>†</sup>	Adjusted p-value <sup>‡</sup>
Gender		<0.001	<b>0.001</b>
Male	7 (6)		
Female	9 (8)		
Age group (years)		0.26 <sup>§</sup>	0.91
<35	9 (8)		
35–44	9 (7)		
45–54	8 (7)		
55–64	7.5 (7)		
>64	6 (9)		
Country of practice		0.23	0.20
Switzerland	7.5 (8)		
France	8 (7)		
Location of practice		0.38	0.21
Urban	8 (7)		
Rural	7 (9)		
Number of half-days worked per week		0.90	0.79
<8	8 (7)		
≥8	8 (8)		
Number of working-years in private practice		0.12	0.31
<20	9 (7)		
≥20	8 (7)		

\* NPHRs that were described by general practitioners as being often prescribed. † Wilcoxon rank-sum tests for binary variables and Kruskal-Wallis test for categorical variable (age group) ‡ Negative binomial regression (all variables listed in the table included in the analysis) § Test for trend: p-value 0.02

**Table 4:** Associations between frequent prescription of nonpharmacological home remedies (prescription for ≥ 10% of patients) and general practitioners' sociodemographic characteristics.

Characteristics	OR	95% CI	p-value <sup>*</sup>	Multivariate		
				Adjusted OR	Adjusted 95% CI	p-value <sup>†</sup>
Gender (female)	2.82	1.83–4.36	<0.001	2.64	1.58–4.43	<b>&lt;0.001</b>
Age group	0.72	0.58–0.90	0.004	0.99	0.62–1.58	0.97
Country of practice (France)	1.24	0.81–1.89	0.32	1.14	0.67–1.94	0.64
Location of practice (rural)	0.72	0.25–2.08	0.54	0.62	0.20–1.93	0.41
Number of half-days worked per week	0.88	0.79–0.98	0.01	0.93	0.83–1.03	0.17
Number of working years in private practice	0.97	0.95–0.99	0.01	0.98	0.94–1.02	0.30

CI = confidence interval; OR = odds ratio \* Univariate logistic regression † Multivariate logistic regression (all variables listed in the table included in the analysis)

Interestingly, we found that the remedies most frequently prescribed were in general also those that had been studied in trials: scientific evidence tends to show that nasal saline to treat colds, mobilising and/or stretching exercises for low back pain and applying cold to burns can alleviate symptoms [28–31]. Unfortunately, the methodological quality of the studies included in systematic reviews was often low to moderate. It is reassuring to learn that GPs are more prone to prescribe remedies that rely on scientific evidence. Alternatively, the frequency of prescription of these remedies could also be linked to the frequency of the medical conditions seen in GPs' practices. As common colds and low back pain are prevalent in patients visiting GPs, the fact that these remedies were frequently prescribed is indeed a logical finding.

Unsurprisingly, the remedies that were more often prescribed were in general also those that were judged to be more effective. However, the two remedies that were considered as being the most effective (squatting during defaecation to treat and/or prevent constipation, effective according to 89% of GPs, and phoning a healer to treat burns or other skin conditions, effective according to 82% of GPs) were infrequently prescribed (often prescribed by only 18 and 15% of GPs, respectively). Little evidence of effectiveness is as yet available for these treatments, which may explain why GPs may be reluctant to advise their use. Alternatively, GPs may select particular patients for whom or presentations for which they will advise the use of these home remedies.

A few GPs frequently prescribed some remedies though they judged them inefficient. This finding is probably explained by the fact that many medical conditions for which GPs prescribed an NPHR in our study have a natural history of spontaneous recovery without any treatment; therefore, GPs may recommend these remedies, even if they think that they are ineffective, because their patients would not appreciate receiving no treatment at all [32].

Whereas the usual way of having a bowel movement in most Western countries is to sit on a toilet, squatting is common in many other countries [33]. As there is evidence that squatting is associated with quicker and more complete bowel emptying [33], using this position during defaecation could be a useful way to prevent and/or treat constipation, but to our knowledge, no studies have so far examined this hypothesis.

Distant healing is deeply rooted in the culture of some parts of Switzerland and France. Despite the lack of scientific evidence, popular support for this traditional healing method has led to its uptake in a number of emergency services in these regions, in particular for the early treatment of burns [34]. Distant healing (often through phone calls) can be defined as the treatment of patients using various techniques, including meditation, prayer or telepathy, transmitted to distant patients [35]. A number of trials addressing the effectiveness of distant healing in various conditions were published, and the majority showed negative results [36–38]. However, some studies found a significant benefit compared with placebo, for example in clinical outcomes among patients in a coronary care unit (using the aggregate MAHI-CCU score, a score designed to summarise a cardiac care unit course) and in systolic blood pressure of hypertensive patients [39, 40]. More specifical-

ly, a Cochrane review found that intercessory prayer was inefficient at alleviating ill health [41]. We found only one trial that had assessed the efficiency of distant healing on skin problems (warts) [35]. It did not show significant differences in terms of number or size of warts between a distant healing and a placebo group. This shows how popular beliefs can influence medical practice without clear scientific proofs. More clinical trials need to be conducted to build the evidence in this field.

Some studies assessed the effectiveness of several other NPHRs included in our list of remedies. A systematic review of randomised controlled trials revealed that ginger reduced nausea and vomiting of diverse causes, but the most rigorous study of the review, which addressed post-operative nausea, did not show significant differences between ginger and placebo [42]. A randomized controlled trial showed that application of cold cabbage leaves and cold gel packs was effective in reducing pain and hardness of breasts in cases of breast engorgement, and the perceived satisfaction was higher among mothers assigned to the group "cabbage leaves". [43] Finally, an observational cohort study revealed that patients with chronic kidney disease and fluid intake >3.6 l/day had lower all-cause mortality than those with fluid intake <2.2 l/day [44].

### Limitations

Though our study was carried out in two countries, only GPs practicing in two urban regions (canton of Geneva and Métropole Grenoble-Alpes) were included. These GPs are not necessarily representative of all GPs practicing in Switzerland and in France, in particular if we take into account the potential role of cultural traditions on GPs' perspectives. In addition, there was an overrepresentation of female GPs in our study, mainly in Geneva. The study was slightly underpowered (349 GPs agreed to participate, whereas 400 were expected according to our sample size calculation), which increases the risk of a type II error (concluding there is no difference when in fact there is). Our study was based on the answers to a self-administered questionnaire, which increases the risk of reporting bias; the extent of this bias could not be assessed, as we did not conduct direct observations in GPs' private practices. We cannot rule out the possibility that the GPs who chose not to participate did so because they did not prescribe home remedies. Regarding the number of patients seen in consultation and the number of times GPs prescribed at least one NPHR to their patients, we restricted the responses to a limited time period (previous week) to decrease recall bias. As a result of seasonal variation, the frequency of prescription of an NPHR during the previous week may, however, be different in other periods of the year. The list of remedies was relatively long and we therefore decided to offer only a limited number of response options to reduce the complexity of the questionnaire. As a result, we measured subjective perceptions of prescription and effectiveness, rather than precise frequencies; however, the fact that we did not offer GPs the possibility to answer "no opinion" could have an impact on our results. Finally, though we planned to study a large number of NPHRs for a large number of medical conditions, our list of remedies could be considered as somewhat subjective; however, the list was established following a four-step procedure: a literature review, then a discussion within the research team (n =

6), then a discussion with 12 French GPs and finally with 8 Swiss GPs. The list emerging from this rigorous process is therefore highly likely to reflect the remedies considered as most interesting to study in general practice.

### Implications for research and practice

Nowadays, one of the major challenges is the multimorbid ageing population, which is placing a greater demand for resources on the health systems [16, 17]. In addition, older multimorbid patients face important risks of inappropriate drug prescribing and adverse drug reactions linked to polypharmacy [12–16], which in turn contributes to the increase in health costs [16, 45, 46]. It has been shown that certain nonpharmacological therapies can be as effective as drugs to treat common medical conditions [20, 47]. However, many of these treatments lack the scientific basis to support their prescription, thus limiting the extent to which GPs prescribe them.

In the future, GPs could play an important role in acquiring the scientific evidence on the usefulness of NPHRs for the treatment of many common benign conditions. In this context, the two remedies that were considered by our sample of GPs as being the most effective (squatting during defaecation to treat and/or prevent constipation and phoning a healer to treat burns or other skin conditions) could be potential candidates for well-designed trials in the future. Other studies could assess the role of NPHRs in reducing the number of consultations in benign self-limited illnesses.

### Conclusion

Our study adds knowledge on NPHR prescription by GPs. The fact that GPs infrequently prescribe NPHRs in primary care, although they often find them effective, needs to be addressed. Their use to treat a large number of benign conditions in primary care deserves further attention.

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### Potential competing interests

No potential conflict of interest relevant to this article was reported.

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## Appendix 1

## Supplementary data

**Table S1:** List of non-pharmacological home remedies (NPHRs) used in the study.

Domain	Medical condition (symptom or disease)	NPHR
Cardiovascular	Postural dizziness	Consuming salted broths
Cardiovascular	Postural dizziness	Drinking large glasses of water in one go
Mucocutaneous	Burn	Applying butter
Mucocutaneous	Burn	Applying cold
Mucocutaneous	Burn (or other skin condition)	Phoning a healer or a "coupe-feu" (cut-fire)
Mucocutaneous	Oral thrush	Using bicarbonate mouth rinses
Mucocutaneous	Pruritus ani	Cleaning anus with water after each bowel movement (for example using the shower head)
Mucocutaneous	Wart	Using autosuggestion techniques (keep repeating that the wart(s) will heal and fade)
Digestive	Irritable bowel syndrome (or symptom of)	Following a lactose free diet
Digestive	Irritable bowel syndrome (or symptom of)	Using colon hydrotherapy (colon cleansing using tubes to inject water)
Digestive	Constipation	Squatting during defaecation using a toilet stool
Digestive	Diarrhoea	Following a constipating diet
Other	At-home fall in the elderly	Training with a pedal exerciser or a stationary bicycle (exercise bike)
Other	Teething pain in babies	Wearing an amber necklace
Other	Excess of weight	Walking dogs
Other	Renal failure	Increasing fluid intake
Other	Seasickness or motion sickness	Eating ginger
Other	Migraine headache	Practicing relaxation techniques (without the help of a therapist)
General condition	Fatigue	Following a diet rich in vitamin C
General condition	Depression	Eating chocolate
Gynaecology	Breast engorgement during breastfeeding	Applying poultices made of parsley and/or cabbage rolls
Gynaecology	Morning sickness during pregnancy	Eating ginger
"Infection"	Sore throat	Drinking lemon tea (with or without honey and milk)
"Infection"	Sore throat	Breathing through a wet interface (compress or handkerchief)
"Infection"	Upper respiratory tract inflammation	Using a humidifier
"Infection"	Upper respiratory tract inflammation	Increasing fluid intake
"Infection"	Cough	Eating honey
"Infection"	Cold	Instilling saline water into the nostrils
"Infection"	Virus disease	Drinking cider vinegar
"Infection"	Virus disease	Following a diet rich in vitamin C
Musculoskeletal	Arthralgia	Applying poultices made of cabbage rolls
Musculoskeletal	Neck pain, cervical osteoarthritis	Doing mobilising and/or stretching exercises
Musculoskeletal	Nocturnal leg cramp	Putting Marseille soap into or under the bed
Musculoskeletal	Plantar pain	Foot massage using a ball
Musculoskeletal	Knee pain, osteoarthritis of the knee	Training with a stationary bicycle (exercise bike)
Musculoskeletal	Low back pain	Swimming (front and/or back crawl)
Musculoskeletal	Low back pain	Doing mobilising and/or stretching exercises
Musculoskeletal	Myalgia	Using heat therapy (heat from a hair dryer or another heat source)
Musculoskeletal	Patellofemoral pain syndrome	Strength training of the thigh muscles (quadriceps)
Musculoskeletal	Patellofemoral pain syndrome	Cycling