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Herbal medicine for acute bronchitis: A qualitative interview study of patients' and health professionals' views

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ABSTRACT

Background: Antibiotics are widely prescribed for acute bronchitis in the UK. Herbal medicine could be used instead to provide symptom relief.
Aim: To explore the views of patients and health professionals on using herbal medicine for acute bronchitis instead of antibiotics.
Design and setting: This was a nested qualitative study, conducted alongside a feasibility randomised clinical trial which ran from July 2018 to May 2019 in 20 GP practices in Wessex, UK.
Method: We conducted telephone semi-structured interviews with patients and with health professionals. The interview data were transcribed and analysed thematically.
Results: Overall, 40 interviews were conducted with 29 patients, six GPs and five nurses. While some patients believed antibiotics are more effective, most were aware of resistance and were keen to try an alternative, including herbal medicine. Several patients believed herbals would be "less intrusive" than antibiotics, whereas a few disliked the taste or experienced side-effects after taking a herbal. Professionals were concerned about potential interactions with conventional medicines. Many patients trusted herbals because of their long history of use, while some did not understand them. Availability of herbals without a prescription enables patients to use them for self-care, but their cost was a barrier for some. Many patients were willing to take a herbal if advised by their GP. Most GPs were happy to recommend a herbal, if endorsed by evidence-based guidelines.
Conclusion: Many patients and health professionals would consider using herbal medicine for acute bronchitis, if based on trustworthy advice and evidence-based guidelines respectively.

How this fits in

Herbal medicine could be a potential alternative for symptom relief for patients with acute bronchitis. Findings suggest that herbal medicines are acceptable to patients and clinicians, but there is some scepticism around their effectiveness and regulation. More trustworthy advice for patients and specific guidelines for GPs are required.

1. Background

Respiratory tract infections are the most common reason for prescription of antibiotics in primary care. Recent studies on antibiotics for acute bronchitis suggest that they cause side effects[1] with limited clinically relevant benefit.[2] It is not surprising that antibiotics are not effective as up to 95 % of cases of acute bronchitis are caused by viruses.[3] Antibiotics are still widely prescribed for acute bronchitis in the UK[4] despite the fact that avoidance of unnecessary antibiotic prescriptions is one of the key components of the Department of Health's strategy for tackling antimicrobial resistance.[5–7]

Various strategies have been proposed in national guidelines including delayed prescribing[8] and wider use of the CRP (C-Reactive Protein) test,[9] but have yet to have substantial impact. Other candidates such as steam inhalation,[10] ibuprofen[10,11] and other potential symptomatic treatments in adults (the expectorant guaifenesin, mucolytics

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and antihistamine-decongestant combinations),[12] have not been shown to have a significant benefit. There is an urgent need to reduce unnecessary prescription of antibiotics by providing effective alternative strategies to relieve symptoms.

One potential approach is to use herbal medicines for symptom relief.[13] A systematic review of herbal treatments for acute upper respiratory infection and cough found strong evidence for *Andrographis paniculata* and moderate evidence for *Pelargonium sidoides*.[14] A Cochrane review judged that there is low quality evidence for *Pelargonium* in acute respiratory infections.[15] This included three randomised trials in adults and three in children with acute bronchitis, which showed inconsistent but overall positive results for resolution of symptoms (all symptoms, cough and sputum production). In adults, symptoms consistently improved after seven days with an effect observed in individual scale items after four days. The liquid formulation seemed more effective than the tablets but there was no direct comparison between tablet and liquid formulations. In a review of the bronchitis symptom questionnaire (BSS), which included 17 studies of Pelargonium (11 adult and 8 children), the BSS score improved significantly by day 3–5.[16]

Pelargonium sidoides is widely available over the counter. In Germany the market size in 2014 was in the order of 20 million doses and the international market was an additional 40 million doses (in Germany *Pelargonium sidoides* is available on prescription for children under 12).

Although NICE guidelines suggest that some patients may wish to take Pelargonium for bronchitis,[17] there have been no studies to investigate whether this would be an acceptable option for patients and clinicians. A systematic review of qualitative studies on views about complementary medicines for treatment of respiratory infections found only two studies about herbal medicines in the UK, both of which were conducted in the 1980s.[18]

The aim of this study was to gain more understanding of patients' and practitioners' views on the use of herbal medication instead of antibiotics for acute bronchitis.

2. Methods

2.1. Setting

This qualitative study ("HATRIC-Q") was conducted alongside a feasibility placebo-controlled trial of *Pelargonium sidoides* root extract in acute bronchitis, called "HATRIC" (Herbal Alternative Treatment for lower Respiratory tract Infections with Cough in adults).[19] HATRIC aimed to determine the feasibility of running a full-scale trial of *Pelargonium sidoides* root extract for the treatment of acute bronchitis in the UK primary care setting.

2.2. Sampling strategy

We aimed to interview a diverse sample of participants and health professionals involved in the HATRIC trial. We undertook purposive, maximum variation sampling to ensure we would collect different perspectives. For the patients the key sampling criteria were ethnicity, gender, age, employment status, recruitment site, type of trial drug taken (liquid drops or tablets), and whether they had completed the study diary for the main trial. We sampled health professionals based on their role (GPs, research nurses, nurse prescribers), gender, randomisation group (tablet vs liquid) and recruitment numbers (low-medium-high).

2.3. Recruitment procedure

The patients were approached by their GP or nurse on the day they were recruited onto the HATRIC trial. If patients gave consent to share their contact details, the qualitative researcher later contacted them to arrange a convenient time to explain the study, gain consent and schedule the interview.

Patients who had declined to participate in the HATRIC trial were given an information sheet and invitation letter with a reply slip (and pre-paid envelope) to invite them to participate in a short telephone interview.

The qualitative researcher also e-mailed the site Principal Investigator from 15 (out of 20) sites to invite them, or another clinician in their team involved in the HATRIC trial, to an interview.

2.4. Interviews

All interviews were recorded on a digital voice recorder. The participants were asked to confirm that they had read the information sheet and then invited to provide verbal consent. Patient interviews were conducted in August–November 2018, and health professional interviews in October 2018–May 2019. Interviews were semi-structured and followed an interview guide (web appendix), which covered topics crucial to the study's objectives, whilst also providing flexibility for participants to introduce pertinent issues. The patients' topic guide was developed by the research team based on the study's research questions to capture patients' experience of taking part in a herbal trial, their views on herbal medicines, as well as their attitudes towards antibiotics and delayed prescribing of antibiotics. After the initial interviews three new questions/prompts were added in the patients' interview guide (willingness to pay, willingness to see a pharmacist, previous use of herbal medicine) as these were topics brought up by some of the patients. The clinicians' interviews focused on their experiences of recruiting participants, their attitudes towards delayed prescribing of antibiotics and their personal views on the use of herbal medicine for acute bronchitis. Three new questions were also added in the clinicians' interview guide (previous use of herbal medicine, willingness to pay and recommend to patients).

2.5. Analysis

All interviews were transcribed, checked and analysed thematically following three key stages (familiarisation, categorisation and classification) of the framework approach.[17] This allowed us to explore a priori topics using a deductive approach (views on use of herbal medicine) and also include emergent themes (using an inductive approach). The data were saved in an excel file. DS created the initial framework, which was later validated by RY, MW, GL after reading and coding 10 % of the data. We used the data in the framework to create a list of common ideas and organised them under bigger themes. The team and two PPI members (specific to this study – MB and JB) reviewed initial themes and subthemes during data meetings until the themes were refined into two main themes reported in this paper. Both PPI members have a particular interest and experience of infections as patients and/or carers.

3. Results

We approached 43 patients, of whom 29 completed a telephone interview (Table 1). Patients were recruited from 11 out of 20 trial sites in Hampshire, Dorset and Wiltshire. From those 11 sites (out of total 20 sites in the trial), the majority had a low deprivation score (>7) and only two sites had a high deprivation score (<4) (1 = more deprived, 10 = less deprived; scores taken from: https://fingertips.phe.org.uk/profile/general-practice). When we had completed 23 patient interviews, the team determined that we were approaching data saturation. We decided to do six more interviews, to include under-represented groups (e.g. patients who had declined to participate in the trial). We invited 17 clinicians of whom 11 were recruited (6 GPs and 5 nurses; 2 were purely research nurses, and three also worked as practice nurses, one as a nurse prescriber) from 10 of the GP practices involved in the HATRIC study.

Patient interviews lasted on average 27 mins (range: 16–54). Practitioners' interviews lasted on average 37 mins (range: 25–55). We identified two main themes: (1) facilitators and barriers to the use of

Table 1
Characteristics of the patients and health professionals.

Total number	40
Patients	**29**
Mean age in years (range)	64 (30–94)
Gender	
Male	12
Female	17
Ethnicity	
White	28
Not known	1
Type of trial medication	
tablets	12
liquid	15
none	2
Employment status	
Employed	12
Retired	15
Unknown	2
Health Professionals	**11**
GPs	5
Nurses	6
Mean age in years (range)	47 (39–57)
Gender	
Male	1
Female	10
Ethnicity	
White	11
Recruitment status	
Low	4
High	6
Medium	1

herbal medicines (Table 2), and (2) the need for trusted advice (Table 3).

3.1. Theme 1: facilitators and barriers to the use of herbal medicine for acute bronchitis

Both patients and clinicians had mixed views about the likely effectiveness and safety of herbal medicines. The majority of patients (n = 18) expressed some concerns about herbal medicine and six were not keen on taking herbal medicine again. Similarly, seven practitioners expressed some concerns around herbal medicine.

3.1.1. Beliefs about the need for antibiotics to treat acute bronchitis

3.1.1.1. Facilitator: concerns about resistance. The majority of the patients' and health professionals' interviews suggested that patients are increasingly aware of and concerned about antibiotic resistance: *'obviously we've come to a point where antibiotics aren't going to work, we need to find alternative remedies'* (PA19, male participant, 59 years old). As a result, the clinicians reported that they give fewer antibiotics and patients are keen to try alternatives, such as herbal medicines.

3.1.1.2. Barrier: belief that antibiotics are effective. Nevertheless, half of the practitioners mentioned that some patients still 'demand' antibiotics, and this was echoed by some patients ('*I want some proper antibiotics'*-PA16, female patient, 71 years old). Participants who believed that antibiotics had previously helped with their symptoms reported expecting them again when they subsequently visited their GP. The severity and the duration of their symptoms influenced some patients to seek antibiotics: '*the severity of symptoms meant that antibiotics was the answer, early on, you know, immediate; I did not want to risk anything'*

Table 2
Quotes from patients and health professionals illustrating the facilitators and barriers to the use of herbal medicine.

Subthemes	FACILITATORS to use of herbal medicine	BARRIERS to use of herbal medicine
1.1 Beliefs about the need for antibiotics to treat acute bronchitis	Concerns about resistance:	Belief that antibiotics are effective:
	'the message is getting out there that the antibiotics are bad… it is definitely in patients' minds about trying alternatives'	'*[I want] antibiotics straight away. I'm probably old school'*
	HP04, female GP, 45 years old	PA15, female patient, 69 years old
		'I know everybody's saying that antibiotics are causing worse problems, but if it works, I'd rather go with those'
		PA16, female patient, 71 years old
1.2 Beliefs about effectiveness of herbal medicines	Need to take something to help with symptoms:	Sceptical about the herbal medicines' efficacy:
	'maybe a herbal treatment would relieve some of the symptoms, even if somebody had a proven bacterial infection… [patients] are happier to have to try something than to just be told to go away and use steam inhalation and drink more fluids… I know that patients like to go away with something, not just a leaflet about how to do steam inhalation or something'	*'I would much prefer a tablet or a medicine… So that the cause and the effect are dealt with directly… I want a direct answer to a direct problem'*
	HP11, female patient, 55 years old	PA02, male patient, 84 years old
		'the thought of a herbal preparation doesn't interest them… there's probably people that don't really believe [in their effectiveness]'
		HP07, female nurse, 39 years old]
1.3 Beliefs about safety and potential side-effects of herbal medicines	Belief that herbal medicines are 'natural' and safer than antibiotics:	Concerns about side effects and interactions:
	'[Antibiotic] mucks up the gut, the flora in the gut, and that's really quite important… Antibiotics can be very strong, and they do whack you quite a lot, whereas the herbal medicine, I don't perceive it to be-, this could be my own perception, anywhere near as strong, it's much more gentle and may well be more suitable for taking over an extended period of time rather than antibiotics'	*'I generally tend to think that herbal medicines don't do any harm, but that's probably not always entirely true… often patients think that as well, that if you take herbal virtually that means no side-effects, which isn't necessarily so. So there's a slight bias in thinking, I think and I'm aware of in myself as well; I tend to what's the word, I downplay what's in my own mind, any possibility of side-effects, unless there's an obvious interaction, like St. John's Wort with various medications… the main one [concern], for me, has been being a little bit more*

(continued on next page)

Table 2 (*continued*)

Subthemes	FACILITATORS to use of herbal medicine	BARRIERS to use of herbal medicine
		cautious about them, purely in terms of regarding them more as medication and less as supplements…. potential side-effects: so that's the main issue of my personal experience of herbal medicine'
	PA04, female patient, 68 years old	HP06, male GP, 39 years old
1.4 Awareness and understanding of herbal medicine	Herbal medicines have been used for years:	Low awareness and understanding:
	'[herbal medicines] have been used traditionally, Greek and Roman medicines, some still go through today and have worked for many years'	*'I don't think I'd understand how nettle leaves can help me remove the itchiness, or the bad spots'*
	PA25, male patient, 64 years old	PA02, male patient, 84 years old
1.5 **Accessibility**	Easy to get and use as a form of self-care: *'[it is] a form of educating people to self-help to a certain extent, because it's not regulated, it doesn't need to be dispensed, generally'*	Difficulties in access and costs: *'I guess that they have to go to a drugstore or a health store, in which to purchase there. That, too, can be a put off, because quite a large number of people get their medication delivered'*
	HP02, female GP, 46 years old	PA05, female patient, 82 years old

(PA18, male patient, 38 years old).

3.1.2. Beliefs about effectiveness of herbal medicines

3.1.2.1. Facilitator: need to take "something" to help with symptoms. Some patients were expecting 'something' to help with symptoms when visiting their GP, or reassurance that their symptoms are not concerning. Clinicians explained that *'people want something… they would like to go home with something that they think might help'* (HP07, female nurse, 39 years old). Some patients indicated that they were keen to try herbals to help with their symptoms: '*I was willing to try anything to stop me from coughing'* (PA11, male patient, 51 years old). Similarly, two nurses regarded herbal medicine as a good potential option to relieve their own cough ('*I did struggle quite a lot with the symptoms, and I think I would have been really grateful to take a herbal medicine'* -HP09, female nurse, 48 years old) and expressed their willingness to try them ('*if a herbal supplement or a herbal treatment is – it might help, then I would do that rather than struggle on'* (HP11, female nurse, 55 years old).

Two patients reflected on the power of placebo effect when they take a medication: '*there's the psychological thing, that if you go to the doctor and they give you something, you hope it's going to get better'* (PA23, male patient, 67 years old). Two clinicians also mentioned that patients would welcome '*something, even if it's, you know, a possible placebo, even'* (HP11, female nurse, 55 years old) and "*there is a huge placebo effect to some of it'* (HP03, female GP, 51 years old).

3.1.2.2. Barrier: scepticism about the herbal medicines' efficacy. Compared with antibiotics, herbal medicines were not perceived as effective or 'quick'. Patients highlighted their expectation to feel better as quickly as possible. For example, two patients commented '*I'm a person that does not have the patience to be sick. I like to get better quicker'* (PA05, female patient, 82 years old) and that '*I might be a bit concerned about getting better quickly'* (PA19, male patient, 59 years old). Two clinicians confirmed that *'in this day and world, everything is quick, instant, social media etc'* (HP03, female GP, 51 years old) and as a result the patients *'want to get better and quickly… they want a quick fix'* (HP04, female GP, 45 years old).

One patient, who had never taken a herbal medicine, didn't mind taking a herbal even it if its action was slower: '*I've never taken anything herbal before. So maybe herbal takes a bit longer than antibiotics, I don't know… I'm all for it'* (PA22, female patient, 30 years old). Health professionals also reported that although some patients were enthusiastic about herbal remedies, others thought that they *'didn't think that that would help them*' or that they are *'completely a waste of time' (HP05,*

Table 3
Quotes from patients and health professionals illustrating the need for trusted advice.

Sub-theme	Trusted advice would facilitate use of herbal medicines	Lack of trusted advice is a barrier to use of herbal medicines
2.1 GPs	*'one of the frustrating things is in coughs and other infections, when you're trying not to prescribe antibiotics, is the lack of other things to prescribe. You do feel, or I do feel, anyway and I think I'm not alone, but that you're failing patients in some way if you don't give them something to help… Sometimes you sort of almost that you'd like to prescribe placebos because – rather than antibiotics. So, if it [herbal] was better than placebo then absolutely, I'd be up for that'*	*'I do have some concerns about prescribing herbal products in that we are not trained and they're not in the BNF and I'd need to have some training and it would need to be very clear instructions, because when you're prescribing it, you're taking the responsibility'*
	HP06, male GP, 39 years old	HP05, female GP, 44 years old *"people think that we are fobbing them off with a herb, rather than because we don't want to give them antibiotics''* HP03, female GP, 51 years old
2.2. Pharmacists	*'you've got your pharmacy with trained pharmacists at the counter. He or she can probably guide you through most routine illness.'* PA25, male patient, 64 years old	
2.3. Health food shops	*'I will say to patients, if they want to go and talk to people in Holland and Barrett or herbal food shops or the chemist and to read the instructions'*	*'I don't go into herbal; I don't go into Holland and Barrett or anything like that.'*
	HP05, female GP, 44 years old	PA25, male patient, 64 years old *'A lot of people are a bit dubious of going to health shops and buy it, whereas in a pharmacy, of course that's different…'* PA05, female patient, 82 years old
2.4. Internet /media	*'if I read an article in the paper that said that there were so many people that have tried it and I would look at the good things and the bad things against antibiotics and herbal, I would probably go and try the herbal… I definitely wouldn't discard it.'* PA29, female patient, 74 years old	*'…make sure I got it from somewhere reputable. I don't think I'd probably buy it over the internet; I probably would need to look a bit more into the regulation of it and things because you do hear stories, don't you, that it could be anything…'* HP09, female nurse, 48 years old
2.5. family and friends	*'[in the past] my daughter gave me some herbal extract medicines, which seemed to work'* PA06, male patient, 76 years old	

female GP, 44 years old).

Two patients explained that their scepticism arose from the fact that the herbal medicines are '*not properly trialled in UK'* (PA18, male patient, 38 years old) and that *'there was no scientific proof that herbal medicine actually helps you'* (PA29, female patient, 74 years old). The practitioners expressed similar reservations. One GP explained that *'it's just the regulation of herbal medicine that I struggle a little bit with… it always will come down to evidence'* (HP02, female GP, 56 years old).

3.1.3. Beliefs about safety and potential side-effects of herbal medicines

3.1.3.1. Facilitator: belief that herbal medicines are 'natural' and safer than antibiotics. Five patients argued that they would prefer herbal medicines to '*chemical'* medicines, because they are not '*quite so intrusive on the body'* (PA13, male patient, 74 years old), '*they get into the system and out of the system'* (PA27, female patient, 67 years old) and *'have very minimal side effects'* (PA21, female patient, 38 years old).

3.1.3.2. Barrier: concerns about side effects and interactions. On the other hand, two patients reported that they were worried about potential side effects and nine reported experiencing some side effects, such as: vomiting, nausea, a strange taste, an upset stomach, and headache. One patient, who was taking the liquid form, found the taste to be '*gross*' and '*evil*' (PA05, female patient, 82 years old). Another patient declined to participate in the trial (PA29) when she heard about potential side effects.

Six practitioners expressed similar concerns based on their clinical experience. Two GPs discussed the common misconception that all herbal medicines are safe. Two research nurses also reported: *'that was the biggest concern, about interaction with other medicines' (*HP10, female nurse, 40 years old). One GP explained that she '*had experience in the past where things have been deemed herbal, but actually interact with lots and cause proper side-effects'* (HP02, female GP, 46 years old).

3.1.4. Awareness and understanding of herbal medicines

3.1.4.1. Facilitator: herbal medicines have been widely used for years. Seven patients mentioned that a lot of herbal medicines '*came from many years ago'* (PA05, female patient, 82 years old). This was considered as a mark of their therapeutic value: '*the fact that people use it in a particular country, and they think it works, is in itself a kind of evidence'* (PA18, male patient, 38 years old). Another patient admitted that he believed in '*what I call old wives' medicine, and old wives' tales… there are good, medicinal benefits in honey'* (PA23, male patient, 67 years old). Similarly, one nurse favoured the herbal medicines because *'thousands of people are using them, so there must be some truth in it, somewhere'* (HP10, female nurse, 40 years old).

3.1.4.2. Barrier: low awareness and understanding. On the other hand, six patients reported their lack of understanding of herbal medicines. Some patients had never used them or thought of using them. Others were puzzled about what they are, about their name ('*natural or herbal, what you call it…'* - PA13, male patient, 74 years old) and were relying on their existing knowledge. Some regarded them as similar to other cough medicines or as *'preventative as opposed to restorative [medicine]*' (PA23, male patient, 67 years old).

3.1.5. Accessibility

3.1.5.1. Facilitator: easy to get and use as a form of self-care. Herbal medicines were considered helpful because patients can use them without a prescription and so feel more in control of their symptoms. Eleven patients and seven health professionals reported that they had previously used herbal medicines.

One patient explained that he would treat his symptoms without going to the GP: *'the thing is antibiotic is quite a severe thing, but you could have something else… If I had a cough, it did not warrant antibiotics, I'd be taking a cough mixture'* (PA13, male patient, 74 years old).

3.1.5.2. Barrier: difficulties in access and costs. However, some patients mentioned that difficulty accessing herbal medicine could be a potential barrier to using it. Five patients and two nurses described price as a major barrier: "*some seem to be ridiculously expensive, which I have grave reservations about*" (PA23, male patient, 67 years old). Overall they said they would buy it '*if it was costed right'* (HP01). They gave various views on how much they would pay, ranging from £5 to £10.

3.2. Theme 2: the need for trusted advice

Both patients and health professionals expressed the need for advice on herbal medicines which can be trusted. This theme describes the views of both patients and health professionals on who they trust to give them advice (Table 3).

3.2.1. GPs and nurses

Thirteen patients reported that they would be happy to accept their GP's advice and treatment decisions. One patient explained that if herbal medicines are given in GP surgeries, she would take them. As one patient noted '*I'm quite good with following what the doctor says*' (PA16, female patient, 71 years old). Four clinicians mentioned that they could see a place for herbal medicine '*alongside kind of normal medicine'* (HP07, female nurse, 39 years old), especially for '*[patients who] don't want antibiotics but they want to get better'* (HP04, female GP, 45 years old). Two clinicians discussed how they see prescribing as an integral part of their role and so it can be difficult when they cannot offer anything. One nurse explained that patients feel that '*their symptoms are being taken seriously, if they're given something*' (HP11, female nurse, 55 years old). Therefore, they would welcome the idea of prescribing herbal medicine as an alternative option.

Some health professionals noted that their views had changed since they had been recruiting patients to the trial, and they would be happy to recommend the use of herbal medicines, if they are endorsed by the medical and research community. All clinicians reported that it would be helpful to have guidelines for the use of alternative medicines to give them confidence in offering more options. They however stressed once again the need for evidence. One nurse explained that she would only recommend herbal medicine to patients *'if there was strong evidence to suggest that it might help'* (HP07, female nurse, 39 years old).

However, two GPs explained that they do not see their role as offering herbal remedies, and one reported that some "*people think that we are fobbing them off with a herb, rather than - because we don't want to give them antibiotics*" (female GP, 51 years old). One factor mentioned was the lack of the necessary training for prescribing herbal medicine. Similarly, one patient didn't perceive advice on herbal medicines to be the role of the doctor: '*if you want herbal medicine, you'd have to go to a health shop… the doctor won't be telling you [about herbal medicine], he'd be giving you a prescription for antibiotics'* (PA17, male patient, 94 years old).

3.2.2. Pharmacists

One nurse reported that she would go to the pharmacist; one GP would advise patients to speak with a chemist. That was also the preference for two patients who explained that they would talk to pharmacists because they '*can probably guide you through most routine illness'* especially if they could not get a doctor's appointment.

3.2.3. Health shops

Views on health shops were variable with some seeing them as a source of trusted advice whereas others were more sceptical. One nurse pointed out that she would only go to reputable health shops and two patients stated that they do not go into health shops.

3.2.4. Internet and media

About a third of the patients reported that they get health information from websites and media. One nurse pointed out that she would not buy herbal medicine from the internet, one patient admitted that he *'googled'* to find out about the herbal medicine and one patient explained that she might try a herbal medicine if she read about it in a newspaper.

3.2.5. Family and friends

Family and friends have an important role in influencing patient to use herbal medicine as reported by four patients. Three patients also commented that they tried some herbal remedies because other people have used and recommended them.

4. Discussion

4.1. Summary

This study explored the perceptions of 29 patients and 11 health professionals on the use of herbal medicine for acute bronchitis. Many participants expressed their desire to take "something" to help with symptoms. Herbal medicines are accessible without a prescription and could promote self-care, allowing patients to get more control over their symptoms, but cost was a barrier for some. Some participants raised concerns about their effectiveness and thought that herbs are not as quick to relieve symptoms as antibiotics. Opinion was divided on the risk of side-effects: some believed that herbs have fewer side-effects than antibiotics, while others were concerned about potential side effects.

Despite their expressed scepticism, patients reported that they would probably try herbal medicine if advised by their GP. The clinicians would theoretically recommend (and personally use) the herbal medicine but only if strong evidence and training were available. Although endorsed by many people and used in other countries, clinicians wanted clearer UK specific regulations and clinical guidelines on the optimal use of herbal medicines for acute bronchitis. Until such time that clearer guidelines are available, GPs and nurses conveyed a preference to signpost patients to health shops or pharmacies. Narratives clearly signalled that herbals are not perceived to be within their zone of expertise.

4.2. Strengths and limitations

This is the first study in the UK since the 1980s to explore views on the use of herbal medicine for respiratory infections.[18] The fact that the sample consisted of people involved in a feasibility trial of a herbal medicine was both a strength (they had experience and views on the topic) and a limitation (because those with strong views against herbal medicine probably did not participate). As we were only able to recruit one patient who had declined to participate in the trial, the sample was biased towards patients who are open to the use of herbal medicines. The sample was taken in a specific region and a specific context so may not be transferable to other regions or countries. We employed both deductive (a priori) and inductive approaches to our data collection and analysis, allowing us to add new topics to our interview schedule and new themes to our framework.

Telephone interviews were useful in reaching a wide range of participants and there is no evidence that they affected rapport with the participants. The research team is supportive of herbal medicine and this stance may have shaped our study design and analysis. We minimised this by multiple coding, validation of the final framework by three members, regular team reflective discussions and PPI meetings as well as keeping an audit trail of the framework development. DS kept research notes (initial thoughts on themes) after each interview and during the analysis process, which she used to compare, clarify and refine the final themes with the team.

4.3. Comparison with existing literature

Our results support the findings of a recent systematic review of qualitative studies of patients' and professionals' views on use of herbal medicine for acute respiratory infections.[18] This concluded that treatment decisions depend on beliefs about the illness and treatments, availability of treatments and advice, and that there is a need for reliable, evidence-based advice on which treatments to use. There have been no published studies in the UK on this topic since the 1980s, when there was less awareness and concern about antibiotic resistance, and the studies at that time focussed on ethnic minorities.[20,21] Our findings support recent initiatives on shared decision-making between doctors and patients which call for clear, comprehensible and evidence-based information to enable patients to consider the available options.[22]

4.4. Implications for research and practice

Many patients and health professionals are keen to receive or recommend "something", and are open to the use of herbal medicines, to relieve symptoms of infections for which antibiotics are not indicated. However, they perceived a need for trustworthy advice on herbal options. Most patients would trust advice from their GP and pharmacist, more than recommendations from a heath food shop or the internet. Clinicians also want training, guidelines or clear instructions in order to feel confident which herbal alternatives to recommend for patients. Therefore, existing evidence on herbal options for treatment of common respiratory infections needs to be summarised and integrated within existing patient information resources and clinical guidelines, especially on promoting self-management of common acute respiratory infections. There is a need to provide basic training materials for clinicians on herbal options which already have some evidence of safety and efficacy, as well as to pursue high-quality clinical trials of promising herbal medicines, in order to improve the strength of the evidence base. The HATRIC trial has shown that it is possible to recruit enough patients to run such a trial, and this qualitative study shows that both patients and health professionals need evidence on herbal remedies from such clinical trials.

Authors' statement

Dr. Willmar Schwabe GmbH & Co. KG, Karlsruhe, Germany provided the Investigational Medicinal Product free of charge and provided payment for access to the anonymised aggregated data at the end of the trial. The study was run independently and the company was not involved in analysing the data.

We declare that this article has not been published previously, that it is not under consideration for publication elsewhere, that its publication is approved by all authors and that, if accepted, it will not be published elsewhere in the same form.

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Ethical approval

The team obtained ethical approval from the University of Southampton and HRA (IRAS Project ID: 233467).

Declaration of Competing Interest

The authors report no declarations of interest.

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