Remedy or cure? Lay beliefs about over-the-counter medicines for coughs and colds

Gina Johnson and Cecil Helman

SUMMARY
Background: Over £500 million is spent in the United Kindom every year on over-the-counter medicines for coughs and colds. Evidence for their pharmacological efficacy is lacking.
Aim: To examine lay beliefs about over-the-counter medicines for coughs and colds. To explore whether the distinction between symptom relief and cure has the same relevance to lay people as it does to medical professionals.
Design of study: Small pilot study using qualitative techniques.
Setting: Variety sample of 11 patients attending the National Health Service walk-in centre, Birmingham, England.
Method: In-depth semi-structured interviews, including pile-sorting and fictional case histories, were used to explore participants' beliefs about the effects of over-the-counter medicines on coughs and colds.
Results: Eight of the 11 participants believed that at least one over-the-counter cough medicine (most frequently Benylin for Chesty Coughs) could shorten, or 'cure', an illness. Five participants thought that the majority of the medicines that they recognised would speed recovery rather than just relieve symptoms.
Conclusions: There is a common confusion in the lay person's mind between the ability of a medicine to relieve symptoms, and its ability to cure a disease or to hasten recovery. This misunderstanding may affect the demand for primary care consultations.
Keywords: anthropology, cultural; common cold; cough; drugs, non-prescription.

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Introduction

THE discovery of penicillin in 1941 introduced a new era in modern medicine.[1] For the first time, doctors were able to prescribe drugs that would cure infections, rather than just alleviating their symptoms. In this article, our use of the word 'cure' implies that, by the intervention of these pharmaceuticals, a patient who would previously have died of his disease would instead recover, or (more commonly) that those patients who would have recovered without any intervention would do so more quickly, shortening the illness.

Many doctors make a distinction between medicines that cure and others that provide only symptomatic relief, and they may assume that their patients recognise this difference. However, lay models of illness are often rooted in folk traditions, and may misinterpret scientific tenets in unpredictable ways. There have been a few previous reports suggesting that lay people may perceive medicines which they can buy over-the-counter as 'cures'.[2-5]

These medicines are widely used in Britain; in 2000, sales of cough and cold remedies amounted to £547 million, and the market is predicted to grow by 24% over the next 4 years.[6] Customer satisfaction is high; research showed that in 90% of cases those who took cough medicines described them as effective, and 90% of people said that they would use the product again to treat the same problem (Proprietary Association of Great Britain, unpublished data, 1997).

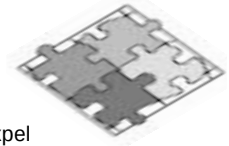
Despite such lay opinions, when Smith and Feldman reviewed the literature on cold medications for children they found no good evidence of either symptom relief or 'cure'.[7] Schroeder and Fahey reviewed all published clinical trials of cough medicines in 2002,[8] finding no evidence that they were effective in reducing the frequency or severity of cough. So how can we explain the widespread use of such medicines?

The main researcher has gathered anecdotal evidence, over 20 years' work as a general practitioner (GP), that her patients' beliefs about the effects of over-the-counter medicines often diverged from conventional medical opinion. This study was designed to explore lay beliefs about these medicines in more depth.

Method

A GP acted as an observer during consultations with nurses at a National Health Service (NHS) walk-in centre in Birmingham, which is in the basement of the main branch of 'Boots The Chemists' pharmacy. She was introduced as 'a colleague', although some patients recognised that she was a doctor. She approached 20 patients (chosen as a heterogeneous sample of ages, ethnic groups and occupations)

HOW THIS FITS IN



What do we know?

Folk models of coughs and colds are compatible with the use of liquids to expel germs. A few previous reports have suggested that lay people may attribute curative properties to over-the-counter medicines.

What does this paper add?

Lay beliefs about the ability of over-the-counter medicines to shorten or 'cure' coughs and colds appear to be common. Because a medicine relieves symptoms, it may also be believed to hasten recovery.

after their consultations. Eleven of these agreed to be interviewed in depth; their ages ranged from 21–77 years, and six of them were women. The information sheet explained that participants' opinions were being sought about over-the-counter medicines, and written consent was obtained. Ethical approval was obtained from South Birmingham Local Research Ethics Committee.

Face-to-face interviews were conducted using a semi-structured questionnaire. The participants were asked about the medicines that they normally used for coughs and colds, and their views about the effectiveness of these medicines. Both open-ended and more direct questions were used, to allow them to explain their own perspective. In addition, they were invited to comment on several fictional case histories involving the use of over-the-counter medicines to treat coughs and colds. During the interviews, the interviewer was careful not to express her own opinion, or to describe any 'official' views about these medicines. Answers to the questionnaire were taken in note form and transcribed verbatim.

Participants were then asked to take part in a pile-sorting exercise,[9,10] designed to further test their understanding about the distinction between symptom relief and 'cure'. This research technique involved giving them, in random order, cards bearing the names of different medicines used for coughs and colds, and asking them to put the cards on one of three piles labelled 'This will shorten a cough or cold', 'This will relieve coughs and colds only for a few hours' and 'Don't know'. The names of the over-the-counter medicines on the cards are given in Box 1.

Cross-checking of the data was carried out to identify any inconsistencies between the responses to the questionnaire, case vignettes and pile-sorting. The answers were analysed in order to discover common themes, which were compared with existing themes identified in the recent anthropological literature.

Results

None of the participants found it difficult to divide the over-the-counter medicines that they recognised into the three different piles. However, the content and size of these different piles varied widely between participants.

In total, there were 132 instances where the 11 participants gave their opinions about the 12 different medicines whose

- Actifed® (Warner-Lambert Consumer Healthcare)
- Aspirin
- Benylin Active Response® (Warner-Lambert Consumer Healthcare)
- Benylin for Chesty Coughs® (Warner-Lambert Consumer Healthcare)
- Calpol® (Warner-Lambert Consumer Healthcare)
- Day Nurse® (SmithKline Beecham Consumer Healthcare)
- Echinacea
- Honey and lemon
- Lemsip® (Reckitt and Colman UK Ltd)
- Nurofen® (Crookes Healthcare Ltd)
- Paracetamol
- Tixylix® (Novartis Consumer Healthcare)

Box 1. Names of over-the-counter medicines on the cards given to participants.

names were written on the cards. In 30 of these instances, the name of the medicine was not recognised (this occurred most commonly with echinacea and Benylin Active Response, which also contains echinacea). In 22 instances, the participant did not give an opinion about the effect of the medicine (the 'don't know' pile).

This left 80 instances in which the participant expressed an opinion about the effect of the medicine. Of these, in 33 instances the medicine was believed to shorten, or 'cure' the illness. In 47 instances, the medicine was believed to relieve symptoms for a few hours only.

These figures conceal considerable variation between individual participants in the pattern of their responses, as shown in Figure 1, and between the perceived effects of the different medicines, as shown in Figure 2.

Remedies

Most of the participants were unsure of the exact meaning of the term 'remedy'. One, however, was very clear:

'*A remedy? I would expect it to be a cure. Pretty much a cure.*' (21-year-old psychology graduate.)

Cough mixtures

Eight of the 11 participants believed that some over-the-counter cough medicines could speed recovery, or 'cure' their condition. Benylin for Chesty Coughs, in particular, was nominated as a 'cure' by all of these eight people. Examples of these views included:

'*These cough mixtures clear up the cough faster ... It helps move the phlegm around and loosen it, helps you bring it up and makes it easier.*' (48-year-old railway worker.)

'*Tixylix helps her get better whereas the Calpol is just, it's just an aid … The Tixylix cleared it up in about 4 days.*' (Mother of 3-year-old girl.)

'*When I have a cold I can usually get rid of it with Benylin. But I've got through a whole bottle this time, it's been 2 weeks, and I can't shift it at all.*' (66-year-old retired per-

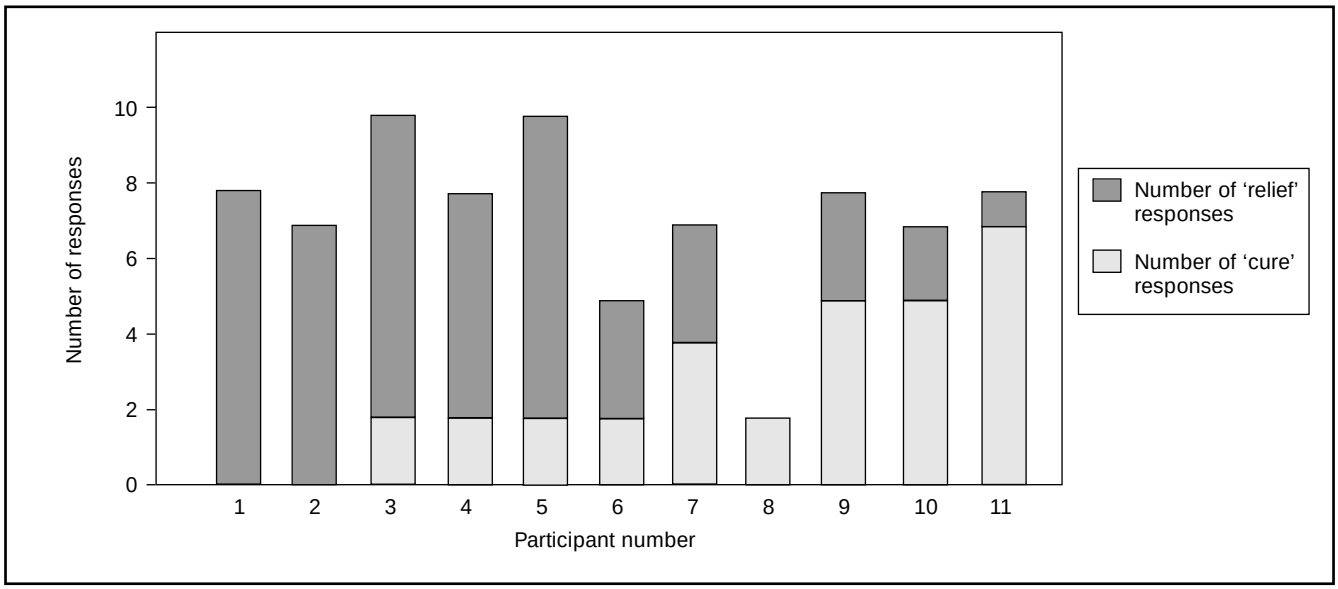


Figure 1. Positive pile-sorting responses of the 11 participants to the 12 over-the-counter medicines.

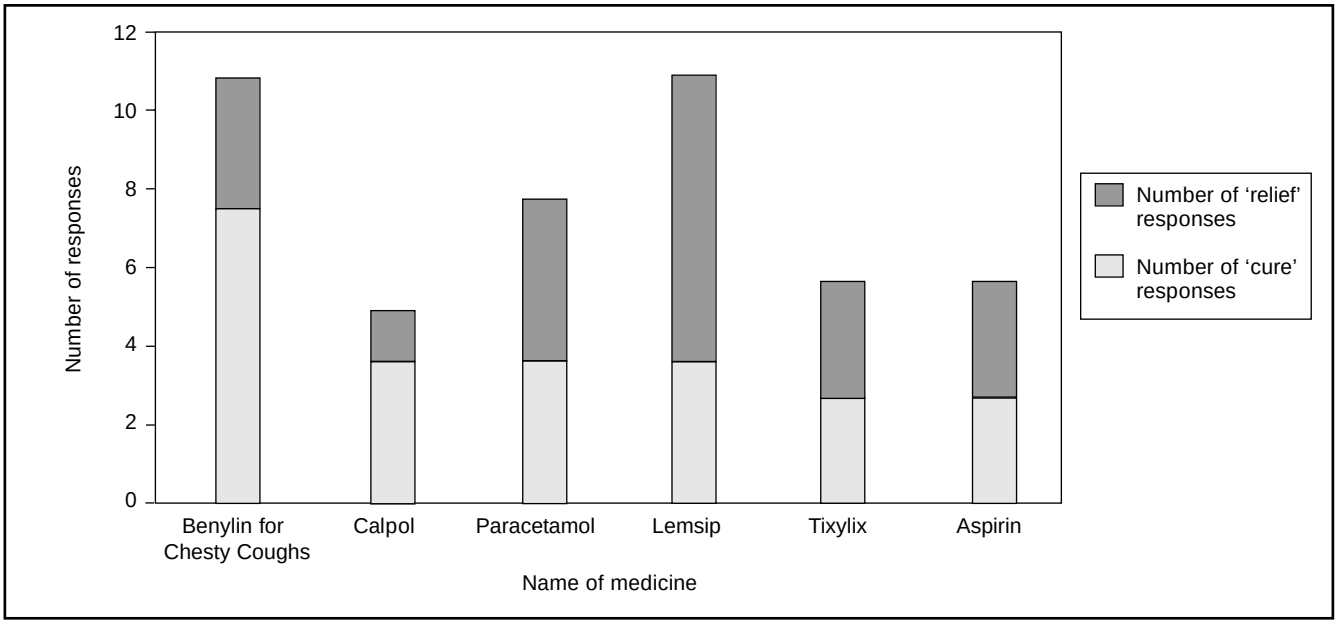


Figure 2. Medicines most frequently classified as 'cure'.

sonal assistant.)

Four of the participants said that they believed over-the-counter cough mixtures to work by expelling phlegm from the chest, for example:

'*I think Benylin might actually shorten a cough if it gets rid of stuff that's stuck down there.*' (71-year-old retired primary school teacher.)

'*I've had this for a fortnight. I've tried all kinds of cough mixtures but they haven't seemed to shift it.*' (57-year-old telecommunications engineer.)

'*And now I've got this cough, bringing up green phlegm. Can I have some Covonia? I find that usually gets rid of it.*' (34-year-old cashier.)

Two of the participants thought that the medicines might have germicidal properties:

'*I suppose that cough mixtures sort of clear out the system, I suppose. Take away the germs I suppose, kill it.*' (48-year-old mother.)

Paracetamol and aspirin

Four of the participants thought that taking aspirin, paracetamol, Calpol or Lemsip (which contains paracetamol and a decongestant) would shorten, or 'cure', colds or coughs. For example:

'*Paracetamols get you better faster, by 1 or 2 days.*' (48-

year-old railway worker.)
'*She's had lots of coughs and colds, but Calpol has always fixed them, until this time.*' (Mother of 2-year-old girl.)

'*Calpol doesn't cure his cough, but it only cures the runny nose and the temperature.*' (Mother of 16-month-old boy.)

Discussion

Summary of main findings

Although this study is based on a small and not necessarily representative sample, it does suggest that some patients believe that common over-the-counter medicines can shorten or 'cure' their illness, rather than just relieve symptoms. There seems to be a blurred conceptual boundary, previously described in other communities,[11,12] between the relief of symptoms and 'cure'. Why has this confusion arisen?

One reason may be the imprecise use of words such as 'cold remedies' by pharmacies and pharmaceutical companies. The Department of Health has also used the term 'remedy' in its recent public advertising campaign 'Antibiotics Don't Work on Colds' (2002), which attempted to reduce public demand for antibiotics. Interestingly, the Oxford English Dictionary defines the word 'remedy' as both 'a cure for a disease' and 'any medicine which alleviates pain and *promotes restoration to health*' (our italics).[13] Thus, the use of this word 'remedy' may imply that such medicines may have more than just a palliative effect, and reinforce lay beliefs in their curative powers.

Also, some people may be reluctant to accept that their bodies can heal themselves, and more inclined to attribute their recovery to a purchased or prescribed medicine.[12,14] Although the manufacturers of these products do not overtly claim that they have curative properties, the wording of their advertisements may inadvertently give this impression.

During the interviews several participants used very similar language to that in these advertisements, without seemingly being aware that they may have been influenced by them.

Strengths and weaknesses of the study

It is obvious that this small qualitative study cannot claim to estimate the prevalence of a particular health belief in the community, but only to identify its existence. Our findings need to be confirmed and quantified by research on a larger patient sample. They may have been influenced by the setting, and by the patients' perception of the researcher as a health professional. The walk-in centre in Birmingham is situated within a community pharmacy, and the participants had consulted a nurse there just before their interviews. No medicines were dispensed within the centre, and no brands were recommended during the consultations. However, it is likely that these patients who chose to attend this NHS walk-in centre for advice will have a different spectrum of beliefs about health interventions from those found in the general population. This does not invalidate our results, but they must be viewed within this context.

The small scale of our research permitted the use of intensive in-depth qualitative interview techniques, which have been developed within the discipline of medical anthropology to reveal the world view of those under study. These methods have uncovered a wealth of diversity of opinion, and may prove to be useful tools for GPs who are curious about their patients' perceptions of medicines.

'*Medical anthropology is about how people in different cultures and social groups explain the causes of ill health, the types of treatment they believe in, and to whom they turn if they do get ill. It is also the study of how these beliefs and practices relate to biological, psychological and social changes in the human organism, in both health and disease.*'[15]

Comparison with the existing literature

The beliefs described above may perhaps appear illogical to the health professional who holds a clear concept of the germ theory of disease, but they have resonance with other folk models of the causes of coughs and colds. Several studies indicate that lay people often attribute upper respiratory tract symptoms not to 'germs' but to environmental conditions. A study of London patients in the 1970s, for example, found that patients often believed that colds and chills developed when vulnerable areas of the body (such as the feet, head, and chest) were exposed to cold, damp or draughts. They treated these with liquid home remedies such as hot tea, hoping to move their body state from a 'dry' to a 'wet' condition, and then to 'flush out' the infection.[16] Such ideas are still prevalent; recent American studies showed that 60% of parents attributed colds to changes in the weather[17] and that many people used fruit-based liquid medicines to 'cure' colds.[18] Perhaps over-the-counter cough medicines represent a version of this type of liquid remedy, adapted for our modern scientific culture.

Implications for future research or clinical practice

People in Western societies are increasingly intolerant of illness, and expect a 'quick fix' to restore them to normal social functioning.[19] Belief in over-the-counter 'cures' may make them more ready to consult a doctor to get 'something stronger', such as antibiotics, if they are no better in 1 or 2 days.[20] Given that consultations about minor ailments make up 10% of the workload in primary care,[21] a small change in consultation rates would have a major impact. However, if we condemn these medicines as ineffective we strike at the root of an extensive lay belief system for managing illness, whose foundation rests on 'chemical coping'.[14]

'*... parents of children with viral infections causing cough … feel helpless in the face of their child's suffering and want to be able to do something for them. So, we give them things to do, whilst they wait for the viral illness to get better on its own ... Please don't let us confuse pharmacological efficacy with the real world of managing human emotions alongside physical illness.*'[22]

If this coping mechanism is questioned, we may see even more demand for medical reassurance. Perhaps it would be inadvisable for doctors to challenge these lay health beliefs

too energetically.

References

1. Le Fanu J. *The rise and fall of modern medicine*. London: Abacus, 2000.
2. Ames JT, Hayden GF, Campbell RE, Lohr JA. Parents' conception of their use of over-the-counter medicines. *Clin Pediatr* 1982; **21(5):** 298-301.
3. Kai J. Parents' difficulties and information needs in coping with acute illness in preschool children: a qualitative study. *BMJ* 1996; **313:** 987-990.
4. Cunningham-Burley S, Irvine S. 'And have you done anything so far?' An examination of lay treatment of children's symptoms. *BMJ* 1987; **295:** 700-702.
5. Clarke A, Hewison J. Whether or not to consult a general practitioner: decision making by parents in a multi-ethnic inner-city area. In: Wyke, S and Hewison, J. *Child Health Matters: Caring for children in the community*. Buckingham: Open University Press, 1991: 74-87.
6. Euromonitor. Major market profiles. OTC Cough and Cold Remedies in the UK. Executive summary. http://www.majormarketprofiles.com/report_summary.asp?icode=CH&S=snap&docid=18915 (accessed 27 June 2002).
7. Smith M, Feldman W. Over-the-counter cold medications: a critical review of clinical trials between 1950 and 1991. *JAMA* 1993; **269(17):** 2258-2263.
8. Schroeder K, Fahey T. Over-the-counter medications for acute cough in children and adults in ambulatory settings. *The Cochrane Library*. Issue 4. Oxford: Update Software, 2002.
9. Spradley JP. *The ethnographic interview*. London: Harcourt Brace Jovanovich College Publishers,1979.
10. Hudelson PM. *Qualitative research for health programmes*. Geneva: Division of Mental Health, World Health Organisation, 1994.
11. Etkin NL. Cultural constructions of efficacy. In: van der Geest S, Whyte SR. *The context of medicines in developing countries*. London: Kluwer, 1988: 299-326.
12. Hardon AP. People's understanding of efficacy for cough and cold medicines in Manila, the Philippines. In: Etkin NL, Tan ML. *Medicines: meanings and contexts.* Quezon City: Health Action Information Network, 1994: 47-68.
13. *Oxford English Dictionary*. 2nd edn. Oxford: Oxford University Press, 1989: 422.
14. Pellegrino E. Prescribing and drug ingestion; symbols and substances. *Drug Intelligence and Clinical Pharmacology* 1976; **10:** 624-630.
15. Helman C. *Culture, health and illness.* 4th edn. Oxford: Butterworth Heinemann, 2000.
16. Helman C. 'Feed a cold, starve a fever': folk models of infection in an English suburban community, and their relation to medical treatment. *Cult Med Psychiatry* 1978; **2:** 107-137.
17. Lee G, Friedman JF, Ross-Degnan D, *et al*. Misconceptions about colds and predictors of health service utilization. *Pediatrics* 2003; **111(2):** 231-236.
18. Baer RD, Weller SC, Pachter L, *et al*. Cross-cultural perspectives on the common cold: data from five populations. *Hum Organ* 1999; **58(3):** 251-260.
19. Vuckovic N. Fast relief: buying time with medications. *Med Anthropol Q* 1999; **13(1):** 51-68.
20. Cornford C. Why patients consult when they cough; a comparison of consulting and non-consulting patients. *Br J Gen Pract* 1998; **48:** 1751-1754.
21. McCormick A. *Morbidity statistics from general practice. 1991-1992*. London: HMSO, 1995.
22. Checkland K. Over the counter cough medicines for acute cough. Gap exists between practice and research [letter]. *BMJ* 2002; **324:** 1158-1159.

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