

# Treatment of fever and over-the-counter medicines

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Health policy is aimed at increasing homecare and deregulating the supply of drugs. This study used parental reports of the treatment of fever as an indicator of possible problems that may result from this policy, finding that the use of ineffective treatments and the overuse of drugs were common.

Fever is a common symptom of infection in children, and is often treated at home by parents and carers with the antipyretic drugs ibuprofen and paracetamol. Current government policy is aimed at increasing the scope of homecare and the diversity of care providers, and extending the use of over-the-counter medicines for the treatment of common disorders.<sup>1</sup> Using the treatment of febrile children as a model, this study aimed to establish from whom parents received information about the homecare of febrile children, how useful they perceived that information to be and what their actual practices were.

## METHODS

Data were collected using a questionnaire that was completed by a convenience sample of 181 parents attending an out-patients clinic at a London hospital. Questions concerned their general beliefs about fever and its harmful effects, as well as their treatment behaviours and sources of information. Because of limited translation facilities, only those who could read English were included. All those approached agreed to participate.

## RESULTS

Of the 181 respondents, 101 (56%) were in the 31–40-year-old age group, with 44 (24%) being less than 20 years old. Nearly all had some form of formal qualification: 56 (31%) had a bachelors degree or higher and only six (3%) had no formal qualification. Most respondents were mothers of children, although 18 (10%) were fathers. All but 26 (14%) had more than one child.

The first group of questions were about treatment of fever. Most parents used a thermometer to take their child's temperature, although 46 (25%) used touch. The most common treatments were paracetamol alone (used by 93, 51%), sponging (61, 34%), paracetamol and ibuprofen alternately (47, 26%) and together (28, 15%) and ibuprofen alone (17, 9%). When asked how often they administered antipyretic drugs, eight (4%) responded that they gave paracetamol every 2 h, and 63 (35%) gave ibuprofen every 4 h or more often.

When asked from whom they had learned their information about the treatment of fever, doctors were the most cited source, followed by friends and then books and magazines. The least used sources of information were the internet, nurses, pharmacists and NHS Direct (table 1). In response to a question about how useful they had found this information, all sources were thought to have been of use by over 80% of those who reported using a particular source, with doctors (97%), nurses (95%) and pharmacists (91%) scoring particularly highly. The least useful sources of information were thought to have been

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the internet (82%), health visitors (87%), NHS Direct (88%) and friends (89%).

## DISCUSSION

A significant number of parents in this study reported the use of ineffective treatments, treatments for which there are a lack of safety data, or incorrect use of antipyretic drugs. Tepid sponging is ineffective, and may cause distress or shivering, but does not cause significant harm.<sup>2</sup> However, other reported practices may be less benign. Combinations of paracetamol and ibuprofen are widely used by professionals despite a lack of data supporting their use;<sup>3</sup> these findings suggest that a significant number of parents are also using such combinations. The unnecessary use of combinations of drugs may also increase the risk of error. This is of particular concern as a significant number of parents were giving antipyretic drugs more regularly than recommended.

Most parents reported receiving advice about the treatment of fever, and most found the advice that they were given useful. Medical professionals were the source of much of this information. Although it is not possible to be sure that these incorrect practices emanated from professionals, other studies have demonstrated that their knowledge and practices are often not evidence based.<sup>4</sup>

These findings are significant because some of the actions reported by parents carry the risk of toxicity. Additionally, the widespread misuse of antipyretic drugs may have implications for the government policy of increased homecare and deregulation of medicine supply.<sup>1</sup> The National Service Framework for Children, Young People and Maternity Services states that there should be clear, understandable and up-to-date information about medicines.<sup>5</sup> However, despite fever being a common symptom, the longstanding availability of antipyretics as over-the-counter (general sales list) medicines, and their increasing availability in non-pharmacy settings, this study suggests that many parents remain confused about their safe use.

Before further widespread deregulation of paediatric drugs, attention should be paid to ensuring that strategies are put in place to ensure that parents understand their use. Healthcare professionals are likely to remain the most important source of information, although the makeup of the professions involved and the way that information is given may change.

**Table 1** Sources of information about the treatment of fever

Source	Number	Useful as a source (%)
Doctors	136	97
Friends	117	89
Books and magazines	91	87
Health visitors	74	87
Pharmacists	66	91
NHS Direct	64	88
Nurses	44	95
Internet	31	82

\*Some parents reported use of more than one source.

While it is possible to exert regulatory control over the actions of professionals and much of the media, not all sources of information are amenable to this. Although not widely used by these parents, the internet is likely to become an increasingly important source of information. Currently, direct advertising of pharmacy or over-the-counter medicines to consumers is permitted, although advertising of prescription-only medicines is not. The international and unregulated nature of much information on the internet, and the consequent globalisation of drug information and even supply may weaken such national regulation.

It is not known from where these parents obtained their antipyretic drugs. However, the increasing availability of drugs from non-pharmacy sources means a passive approach to the provision of information about prescribed drugs may no longer be sufficient. Doctors and other professionals will have to take a more proactive role in establishing what drugs children are taking and how they are being given, both for immediate educational purposes and to ensure that medical records are accurate. The fact that the parents in this study were accessing secondary hospital care meant that such opportunities had arisen or were about to arise. Parents completed the questionnaire prior to the consultation, so these findings do not reflect what occurred in the clinic.

Although antipyretics and other over-the-counter drugs are generally safe, serious sequelae can occur from their incorrect use. This study used a sample from one London hospital and so is not necessarily representative of other groups. However, it does suggest there remains confusion about the use of

antipyretic drugs, even though the educational level of these parents was relatively high and they were in a hospital environment. Continuing research is needed to monitor drug usage by parents to inform educational and drug supply policies.

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