



Available evidence does not support routine administration of antipyretics to reduce duration of fever or illness

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Commentary on: **Carey JV.** Literature review: should antipyretic therapies routinely be administered to patients with [corrected] fever? *J Clin Nurs* 2010;**19**:2377–93.

Fever is a common occurrence in adults and children in community and healthcare settings. Despite this, it does not seem to be common knowledge that fever is a natural response to an invading organism and that most fevers are associated with self-limiting viral illnesses.^{1–3} Many health professionals and the general public see fever as an illness in itself not as a highly coordinated protective response.

Illness sometimes results in the body thermostat being set higher than normal, and hence fever is a physiological measure which may result in shivering, for example, in order to initially raise the body temperature to an elevated set point, and then sweating to return it to normal. Being febrile may be unpleasant, and the literature abounds with reports of health professionals' and parents' actions to reduce fever and maintain temperature within normal limits, during febrile illnesses.^{1–2} Active cooling methods include tepid sponging, cooling blankets and intermittent or regular oral or intravenous antipyretics (eg, paracetamol). Adults may overdose using, for example, paracetamol and a cold/flu medication that also includes paracetamol (for pain management). Furthermore, parents might provide, incorrect doses at incorrect frequencies, and use antipyretics in combination in their quest to normalise temperature.^{2,3}

As fever is a natural response to illness, which is thought to support the body's response to illness, then treating it might delay recovery; hence it is important to evaluate the necessity of reducing fever and the effect of reducing fever on illness duration, morbidity and mortality.

A strength of the article is the clear description of processes used at each stage of the review. Carey systematically identified the peer-reviewed English language literature. Rationale for inclusion and exclusion of studies is provided in detail, and articles summarised in accordance with the Critical Appraisal Skills Programme.⁴ The table reports significant factors and includes the necessary and appropriate information to enable readers to draw their own conclusions.

One systematic review, 11 trials and 2 retrospective studies were identified (3 of the trials were summarised in the systematic review). The articles included in the review address different illnesses; parasitic, viral, bacterial diseases and interventions evaluated included antipyretic drugs as well as external cooling or combinations of these. Two of the trials did not study people with normal illnesses, trials induced fever/illness for the purpose of studying fever and its control.

There is no critical analysis of the studies as a whole or grouped according to illness, patient profile or treatments. Discussion of findings is very limited and conclusions drawn replicate those commonly reported in the

literature. The use of English language literature means we cannot be confident, however, that this review represents the sum of current research that addresses this question.

The wide range of interventions and populations covered in the review requires careful reading. Four studies of people with malaria from developing countries had inconsistent findings. Two studies using paracetamol and external cooling reported significantly longer illness duration in the intervention group than the control groups. No difference was reported in the studies comparing interventions of ibuprofen or external cooling. This finding is replicated in studies exploring seriously ill patients: paracetamol and external cooling significantly prolonged illness duration (compared with no antipyretic or less aggressive use of antipyretic), whereas no significant differences were reported in studies comparing ibuprofen or cooling methods alone with no active cooling/antipyretic.

It is noteworthy that antipyretics extended the duration of illnesses in four of the five studies exploring viral illnesses or pneumonia. Recently, a study reported significantly lower antibody titres in children postvaccination⁵ following prophylactic antipyretics, hence the use of drugs to reduce temperature might also have long-term consequences for health.

What nurses should consider for decision making is not a focus on any particular temperature limit (eg, 37.5°C) but on the short- and long-term consequences as well as how the patient is feeling and how they are responding to the febrile illness. Guidelines developed for children should not be translated into adult guidelines without consideration of the evidence.

Patients and parents should be advised that fever is a normal physiological response to illness and is not an illness in itself. Only high temperatures (40°C or higher) need to be treated. There is no evidence that using antipyretic drugs or external cooling helps recovery, and as the review by Carey indicates they can cause discomfort and delay recovery, therefore their routine use should be discouraged. Larger studies are needed to establish the effects (or lack of them) of the impact of antipyretic drugs and external cooling (alone or in combination) on short-term recovery from illness and short- to medium-term morbidity.

Given the established practice of cooling and administration of antipyretic drugs, then the next challenge will be to investigate how best to change practice safely so that high fevers are managed appropriately and mild fevers are managed symptomatically. Research is needed to determine effective methods of educating patients and parents about the management

of fever in the community and healthcare settings. Do interventions designed to increase knowledge, alone, work, or is there a need to target attitudes towards fever and people's fear of harmful outcomes from fever?

Competing interests None.

References

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