Impact of honey as a topical treatment for wounds remains unclear

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Context
In some countries, honey has been used continuously in the topical treatment of wounds for thousands of years, in others it lost favour and was reintroduced into modern clinical practice only after licensed wound care products containing medical-grade honey became available within the last decade. A systematic review of honey as a topical treatment for wounds completed in 2008 has recently been updated by Jull and colleagues.

Methods
Databases were searched from 2008 to June 2012 and two authors independently selected randomised controlled trials (RCTs) and quasi-RCTs for review. Studies involving patients of any age with wounds treated topically with honey and any other dressing or component were included. They included 15 with acute wounds, 7 with chronic wounds and 3 with mixed acute and chronic wounds. The data were required to include either time to complete healing or the proportion of patients with completely healed wounds. The data were extracted using a standardised form, checked for risk of bias using the Cochrane Collaboration tool by each of the two authors, analysed and summarised.

Findings
Six new studies were found to supplement the 19 included in the last review; the number of participants increased from 2554 to 2987 (median=87, range=30–900). A total of 46 studies were excluded. The risk of bias was judged mainly to be high or unclear with regard to blinding arrangements and, to a lesser effect, in allocation concealment. Diversity in wound type and study methodologies precluded meta-analysis. The authors concluded that there was insufficient evidence to guide clinical practice in some areas, and did not recommend purchase of honey dressings. They found that honey used in conjunction with compression did not significantly improve healing rates of venous leg ulcers (relative risk 1.15, 95% CI 0.96 to 1.38). They noted prolonged healing in partial-thickness burns and full-thickness burns treated with honey in comparison to early excision and grafting (mean difference 13.6 days, 95% CI 10.02 to 17.18 days), and also in leishmaniasis when used with meglumine antimoniate (relative risk 0.72, 95% CI 0.51 to 1.01). Yet in partial-thickness burns honey reduced healing time compared to conventional dressings (mean difference −4.68 days, 95% CI −4.28 to −5.09 days). Recommendations to improve future trial design were formulated.

Commentary
This review included many studies completed before widened access to modern, licensed wound care products containing medical grade honey. Quality standards for honeys destined for clinical use have been established in order to discriminate them from honeys destined for consumption. Also characteristics of a honey depend on bee species, the floral source, harvesting and storage conditions, and different honeys may have different modes of antibacterial action. The honeys included in this update came from countries where the producing bee was probably Apis mellifera, but honeys produced in Asian countries may have come form other species. Floral source was not always specified. Five RCTs utilised manuka and jarrah honey, so a case could have been made to analyse those separately.

A valid criticism of the clinical studies included was their small size and design. The decision to judge risk evaluations as ‘unclear’ where the investigator had provided information on allocation concealment but failed to explain whether envelopes were opaque seemed rather harsh. Lack of blinding participants and healthcare providers yielded the greatest risk of bias. It is difficult to disguise the smell, consistency and colour of honey and it may be that this will always be an unachievable goal in clinical trials with honey.

Most trials utilised conventional comparators (eg, silver sulfadiazine, povidone iodine, hydrogel or usual care), but sugar, boiled potato skins, amniotic membrane or honey supplemented with vitamins and polyethylene glycol 4000 were unusual. As new clinical evidence becomes available from better-designed RCTs using modern honey dressings, evidence from former trials may become less influential.

Cochrane reviews provide a valuable means to evaluate clinical evidence, but including only studies that report complete wound healing as a primary outcome is restrictive. The exclusion of one study of malignant wounds because wound healing was not achieved suggests that outcomes, such as decreased wound size and increased survival time, were not important. Future reviewers might consider using criteria that allow more diverse outcomes to be evaluated.

Competing interests RC has consulted for Arnold Palmer, Flen Pharma, BSN Medical, Crawford Healthcare, Molylinke, Bayer Consumer Healthcare. She has lectured for KCI, Advancis Medical, SAWC and the College of Practitioners of Phytotherapy. Additionally, she has provided educational presentations.
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References