The Royal Society of Medicine

Journal of the Royal Society of Medicine
Open; 5(1) 1–3
DOI: 10.1177/2042533313509263

A randomised controlled trial of topical Kanuka honey for the treatment of eczema

James Fingleton[1], Colin Helm[2], Chris Tofield[2], Mark Weatherall[3] and Richard Beasley[1,3]
[1]Medical Research Institute of New Zealand, Wellington 6242, New Zealand
[2]Clinical Horizons, Tauranga 3112, New Zealand
[3]School of Medicine & Health Sciences, University of Otago, Wellington 6242, New Zealand
Corresponding author: James Fingleton. Email: james.fingleton@mrinz.ac.nz

Objectives

Topical honey has been suggested to be effective in the treatment of eczema but there are no clinical trials as a single agent. One study reported use of honey, beeswax and olive oil mixture alone and in combination with topical steroids, and suggested that this mixture may be effective for the treatment of atopic dermatitis and psoriasis.[1] We report a pilot study of the acceptability and feasibility of topical medical-grade Kanuka honey for the treatment of eczema.

Design

An open-label single-blind randomized controlled trial was conducted. Participants applied medical-grade honey to a representative lesion on one side and aqueous cream BP to the other, every night for 2 weeks. Lesions were covered with a dry non-adherent dressing overnight. Choice of side was randomized by coin toss.

Setting

Two primary care practices in Tauranga, New Zealand.

Participants

There were 15 adult participants with a doctor's diagnosis of eczema involving the limbs, with bilateral lesions to allow comparison between treatments. Exclusion criteria were any corticosteroid use, requirement for antibiotic treatment or allergy to honey.

Main outcome measures

Primary outcome measure was the lesion component of the validated SCORing Atopic Dermatitis measure,[2,3] assessed by a second investigator blinded to treatment allocation. Secondary outcome measures were Three Item Severity (TIS) score[3] measured by the blinded investigator, unblinded measures were participant rated itch severity and acceptability of honey therapy, both measured by visual analogue score. The study was approved by the Multi-Region Ethics Committee of New Zealand (NZ), MEC-11-12-098, and written informed consent was obtained from all participants. One sample *t*-tests were used to estimate the difference between sides administered honey or control. An exact binomial method was used to calculate the confidence interval for the proportion of those with an adverse event. The sample size of 15 was chosen on the basis of variance estimation rather than to detect clinically important differences.

Results

The majority of subjects were women (8/15) and all subjects were included in the analysis, mean (SD) age 37.1 (12.1). Acceptability of honey therapy was moderate with mean duration of application over 8 hours, results shown in Table 1. Mean (95% confidence interval) eczema severity was similar in honey and control groups at baseline, honey minus control −0.5 (−2.2 to 1.3). After 2 weeks, treatment change in lesion intensity was not different between groups, −0.1 (−1.5 to 1.4). TIS and subjective itch scores were also similar for honey and control, −0.1 (−0.9 to 0.6) and −7.3 (−27.7 to 13.2), respectively. One participant reported increased itch with honey application.

Conclusions

In this pilot single-blind randomized controlled trial of topical medical-grade Kanuka honey for the treatment of eczema, Kanuka honey treatment was found to be feasible with moderate acceptability. There was

Table 1. Comparison of 2 weeks' treatment with honey versus aqueous cream in eczema.

	Honey	Aqueous cream	Honey minus cream*	*P* value†
Acceptability				
Score (0–100)	60.6 (26.6)	–	–	–
Clinical outcomes				
SCORAD lesion (0–18)				
V1	4.6 (3.4)	5 (3.0)	–	–
V2	4.4 (1.3)	4.9 (3.5)	−0.5 (−2.2 to 1.3)	0.58
Change with treatment	−0.2 (2.2)	−0.1 (2.5)	−0.1 (−1.5 to 1.4)	0.92
TIS (0–9)				
V1	1.9 (1.8)	1.9 (1.5)	–	–
V2	2.0 (2.1)	2.2 (1.9)	−0.1 (−1.0 to 0.8)	0.76
Change with treatment	0.1 (1.4)	0.3 (1.4)	−0.1 (−0.9 to 0.6)	0.70
Itch (0–100)				
V1	41.7 (27.6)	41.2 (21.9)	–	–
V2	26.4 (30.5)	33.1 (24.5)	−6.7 (−26.1 to 12.7)	0.47
Change with treatment	−15.3 (36.4)	−8.0 (31.9)	−7.3 (−27.7 to 13.2)	0.46
Adherence				
Duration of use (min)	503 (99.3)	502 (98.2)	–	–

Values reported as mean (SD) unless otherwise stated.
For SCORAD (SCORing Atopic Dermatitis) lesion and Three Item Severity (TIS scores), higher scores represent more severe disease.
Acceptability scores range from 0 'Completely unacceptable' to 100 'Completely acceptable'.
Itch scores range from 0 'No itch' to 100 'Worst itch possible'
V1: Baseline visit 1.
V2: Visit 2 after 2 weeks' treatment.
*Mean (95% confidence interval).
†One sample *t*-test.

no evidence of efficacy above that of the aqueous cream control. Aqueous cream is not recommended as a treatment in eczema and represents a negative control.[4] Important limitations of this study are the small sample size, which means that we cannot rule out a small but clinically important response to topical honey, and incomplete blinding due to the physical characteristics of honey.

Topical application of medical-grade Kanuka honey does not appear to be effective in the management of eczema.

Declarations

Competing interests: Shaun Holt, the Medical Director of Honeylab, was previously the Programme Director of Complementary Medicine at the Medical Research Institute of New Zealand. The authors have no other competing interest to declare.

Funding: The study was sponsored by Honeylab, a manufacturer of medical-grade Kanuka honey. The Sponsor had no role in the design, conduct and analysis of the study or the decision to publish.

Ethical approval: The study was approved by the Multi-Region Ethics Committee of New Zealand (NZ), MEC-11-12-098, and written informed consent was obtained from all participants.

Guarantor: JF

Contributorship: JF, MW and RB designed the study with input from CH and CT. JF, CH and CT conducted the study with analysis performed by MW, JF and RB. JF wrote the first draft and all authors revised and approved the final manuscript.

Acknowledgements: None

Provenance: Not commissioned; peer reviewed by George Lewith

References

1. Al-Waili NS. Topical application of natural honey, beeswax and olive oil mixture for atopic dermatitis or psoriasis: partially controlled, single-blinded study. *Complement Ther Med* 2003; 11(4): 226–234.
2. Schmitt J, Langan S and Williams HC. What are the best outcome measurements for atopic eczema? A systematic review. *J Allergy Clin Immunol* 2007; 120(6): 1389–1398.
3. Oranje AP. Practical issues on interpretation of scoring atopic dermatitis: SCORAD Index, objective SCORAD, patient-oriented SCORAD and Three-Item Severity score. *Curr Probl Dermatol* 2011; 41: 149–155.
4. National Collaborating Centre for Women's and Children's Health. Atopic eczema in children RCOG Press. See http://guidance.nice.org.uk/CG57/Guidance/pdf/English (last checked 3 December 2013).