Bug busting was less effective than malathion lotion for head lice in children


QUESTION: Is bug busting (wet combing with a fine toothed comb) as effective as malathion lotion for head lice in children?

Design
Randomised (unclear allocation concealment), blinded (outcome assessors) controlled trial with follow up at 7 days after completion of treatment.

Setting
24 primary schools in an area previously identified to have lice with intermediate resistance to malathion, in North Wales, UK.

Participants
81 children aged 3–14 years who were identified by school nurses as having live, moving head lice; had not used insecticide lotion in the previous 2 weeks; and had no broken skin on the scalp. The sample included children from the participating schools and siblings at home who met the selection criteria. 72 children (89%) (mean age 7.7 y, 71% girls) were included in the analyses.

Intervention
37 children were allocated to bug busting. During a home visit, parents were given a boxed bug buster kit, which included instructions, 2 fine toothed nit combs, one normal comb, a plastic cape, and stickers. Parents were to wash the hair, apply lots of conditioner, comb the hair straight, and then use the nit comb to comb out lice until none were found. This process was to be repeated every 3–4 days for 2 weeks; if an adult louse was found after the first session, the treatment course was to be extended by 3 further sessions. 44 children were allocated to 0.5% malathion lotion (Suleo M; Derbac M for asthmatic children). During a home visit, parents were given one or more 50 ml bottles of the lotion and asked to follow the instructions on the box: wet hair thoroughly down to the roots with lotion, allow to dry naturally and leave for 8–10 hours, and repeat application 7 days later. They were not to use a nit comb.

Main outcome measure
Presence of live head lice, determined using detection combs and direct observation on dry hair.

Main results
Analysis was by intention to treat. The mean duration of the bug busting treatment was 17.7 days. At 7 days after completion of treatment, children who received the bug busting treatment were more likely to have live lice than those who received malathion lotion. (table)

Conclusion
Children with head lice who were treated with bug busting were more likely to have live lice 7 days after treatment than children treated with malathion lotion.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Bug busting</th>
<th>Malathion lotion (95% CI)</th>
<th>RRI (CI)</th>
<th>NNH (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live lice 7 days after treatment</td>
<td>63% (52 to 81)</td>
<td>23% (14 to 31)</td>
<td>178% (23 to 81)</td>
<td>3 (2 to 6)</td>
</tr>
</tbody>
</table>

*a Abbreviations defined in glossary; RRI, NNH, and CI calculated from data in article.

COMMENTARY
Community nurses and parents in the UK, as elsewhere in the world, are engaged in a constant battle with head lice. The current treatment options are physical methods (eg, combing) and/or the application of pediculicides.

This is the first published randomised controlled trial that compares combing with chemicals, although the bug busting approach is strongly promoted by the UK National Health Service website as the “effective” option of first choice.1 Non-chemical treatments may appear attractive in view of the increasing resistance of head lice to insecticides and a natural disinclination to expose children to chemicals.2 This trial by Roberts et al, however, suggests that bug busting alone is less effective than malathion alone; the study did not examine the effectiveness of the combined use of bug busting and malathion. A recent systematic review found no evidence that any pediculicide is more effective than others and suggested that any treatment decisions should take into account local patterns of resistance.3

The findings of Roberts et al are useful to practitioners because the study was grounded in “real world” practice, where parents themselves did the treatment. The fact that only half the participants complied fully and accurately with the instructions is important, and even lower rates of concordance may be expected outside of a research study. The conclusions offer practitioners a firm basis for advising concerned parents and teachers of the relative merits of combing and malathion.

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_Evid Based Nurs_ 2001 4: 12
doi: 10.1136/ebn.4.1.12

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