

CORRESPONDENCE

Treatment of head lice

Sir—We congratulate R J Roberts and colleagues (Aug 1, p 540)¹ for their comparative study on head louse control, but think their suggestion to base a nation-wide policy on these isolated findings could be counter-productive.

Although they report a success rate of 78% for malathion in North Wales, a similar study in the Bath and Bristol area, UK,² reported a much lower rate of just 36% for the same compound. Ironically, this rate is lower than that achieved by wet combing in the Wales study, so some could argue that this method should be used more widely.

Another important factor not sufficiently addressed by this group is the inevitable effect of continuing selection pressure on the head louse population. Once organophosphate resistance reaches a facultative level in an insect population, it can increase ten-fold to 100-fold over the next ten to twenty generations,³ about the number head lice undergo in the time between conducting a study and its publication.

Until a fully effective treatment does become available, surely we should learn from our experiences in other areas of public-health pest control, for which integrated approaches frequently prove most successful.

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- 1 Roberts RJ, Casey D, Morgan DA, Petrovic M. Comparison of wet combing with malathion for treatment of head lice in the UK: a pragmatic randomised controlled trial. *Lancet* 2000; 356: 540-44.
- 2 Downs AMR, Stafford KA, Harvey I, Coles GC. Evidence for double resistance to permethrin and malathion in head lice. *Br J Dermatol* 1999; 141: 508-11.
- 3 Curtis CF, Hill N, Kasim SH. Are there effective resistance management strategies for vectors of human disease? *Biol J Linn Soc* 1993; 48: 3-18.

Sir—R J Roberts and colleagues¹ show a 38% success rate with wet combing to treat head lice infestations. This method began as a detection method designed to ascertain the presence of a low number of hatched lice at any development stage.²

Normally washed, wet hair, made manageable with ordinary hair conditioner, is combed with a detection comb. Lice remain motionless while in moisture and cannot move away from disturbance. Repeat fine-combing of the rinsed hair provides an additional check. Clearance of an infestation requires four sessions spaced evenly over 2 weeks to remove lice as they hatch before they can spread or reproduce. We wish to clarify that the 1996 kit for this treatment is described by Roberts and colleagues. The 1998 version contains an improved comb that lifts first-stage lice from the hair with greater ease than the earlier model and removes lice more quickly.

40 families were randomly assigned two applications of malathion lotion 7 days apart (although the products advise that one application is sufficient). This treatment produced a 78% success rate when dry hair was examined on days 7 and 15. P Bingham and colleagues³ who explored the methods for this type of trial, argue for screening 3-6 days after insecticide application, and for use of the more sensitive wet combing with conditioner technique to assess the outcome.

Many families face multiple episodes of head infestation when their children are aged 4-12 years and, therefore, the challenge is to find a sustainable solution. The skill of wet combing grows with familiarity, whereas exposure of the louse population to any repeatedly applied insecticide is likely to increase insect resistance. Roberts and colleagues do not take into account the comparative cost to families of a single-purchase kit, which is reusable for detection and treatment, and malathion lotion, which must be bought new for each application. The combined cost for National Health Service prescriptions and over-the-counter sales of insecticide medication runs to about UK£29 million in the UK each year.⁴

Roberts and colleagues' trial results are not placed in context of the continuing experience of the participating families, which Bingham and colleagues think is important.³ Nevertheless the findings do justify the current Department of Health policy of

offering an informed treatment choice between insecticide medication, with assessment 3-5 days after use, and the wet combing method using the appropriate comb.

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- 1 Roberts RJ, Casey D, Morgan DA, Petrovic M. Comparison of wet combing with malathion for treatment of head lice in the UK. *Lancet* 2000; 356: 540-44.
- 2 Ibarra J, Hall DM. Head lice in schoolchildren. *Arch Dis Child* 1996; 75: 471-73.
- 3 Bingham P, Kirk S, Hill N, Fiqueroa J. The methodology and operation of a pilot randomized control trial of the effectiveness of the Bug Busting method against a single application insecticide product for head louse treatment. *Public Health* 2000; 114: 265-68.
- 4 Purcell S. Practical ways with parasites. *Chem Drug* 1998; 250: 14-16.
- 5 The prevention and treatment of head lice. London: Department of Health; February, 2000.

Sir—Although the trial reported by R J Roberts and colleagues,¹ has much to recommend it, there is one major flaw in the design that is common to many trials of various treatments—the lack of information on long-term outcome.

Reinfestation poses a major difficulty faced with head lice. The advantage of wet combing is that it can be repeated with no worry about adverse effects. The same is not true for use of lotions.

To definitively find out which treatment is most effective, a large pragmatic randomised trial is necessary to investigate the prevalence of head lice over a period of at least 1 year. At present there is not sufficient evidence on which to base widespread policies.

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- 1 Roberts RJ, Casey D, Morgan DA, Petrovic M. Comparison of wet combing with malathion for treatment of head lice in the UK: a pragmatic randomised controlled trial. *Lancet* 2000; 356: 540-44.