

Letters to the Editor

Dear Editor,

Incidence of pediculosis capitis

The research paper 'Insecticides Against Head lice in Glasgow' by Lindsay and Peock, published in the August issue of the Journal, is a welcome investigation of a persistent but chronically under-researched problem. However, in their study of local trends, the authors may have neglected certain acquired knowledge of universal significance and failed to consider national influences on the local situation.

Comparison of the high 1985 estimates of incidence (Davis & King, 1985) and the low 1985-1991 official figures cannot be fairly made without examining the comparative accuracy of the 2 completely different collection methods employed. It was established in the 1940s by Mellanby that school checks produce a large number of false negatives (that is subjects passed free of lice who actually have them). Figures, such as those of the Scottish Health Service, collated from head inspections made in school, produce an under-estimate of the number of cases amongst the school-children inspected and do not take into account cases in the rest of the family.

The collection of data from parents by confidential questionnaire, initiated by Davis and King (1985) and developed by Ibarra (1989) suggests that between one tenth and one third of primary school-children suffer at least one attack of head lice each year. The questionnaire format used by Ibarra requires parents to record cases in the family when hatched lice are found, that is active cases only.

Lindsay and Peock (1993) make an informed estimate that in 1991 between 17,000 - 36,000 treatments were dispensed by retail pharmacies in Glasgow. In addition 6,400 - 15,000 treatments were handed out by Greater Glasgow Health Board. Thus in total between 23,400 - 51,000 were distributed. The unremarked fact that the Health Board does not know exactly how many treatments it distributed reflects a national failure to sub-

mit head louse control efforts to adequate audit and critical scrutiny.

Each one of those products, whatever the source, carried the instruction to treat the whole household prophylactically at the same time as the diagnosed family member(s). If an average household is taken to contain 4 members, a single application to 10% of 41,057 5-10 year old children and their families in Glasgow city alone would account for the use of 16,422 treatments. According to Ibarra (1989) it is likely that between half and two thirds of those families would have found it necessary to treat at least once more, because a common characteristic of outbreaks of pediculosis capitis is the reinfection of school-children several times in succession. This would account for the use of a further minimum 8,211 treatments, bringing the total to 24,633 'legitimate' treatments, which is one thousand more than the lower estimated number of treatments distributed.

The Community Hygiene Concern (CHC) Help Line has evidence that head lice were a problem in areas around Glasgow in 1991, so we would support the assumption that some treatments were purchased in the city for use outside. Indeed it is a measure of the distress of sufferers that following the March 1991 publication of the London Help Line number in 'Woman's Own', so many made long distance calls seeking help.

Full Marks came onto the market in 1990 as a shampoo formulation followed by a lotion which was not widely available until Autumn 1991. The manufacturer's original marketing line, in fierce competition with Lyclear creme rinse, also launched in 1990, was that Full Marks shampoo is better value for money because 4 treatments in one bottle of Full Marks shampoo works out cheaper than the single treatment bottle of Lyclear per family member. These factors probably influenced the public preference for shampoo formulations detected in the Glasgow study. Full Marks ranks 4.5 in the brands recommended by GPs and pharmacists and 4 among those most commonly purchased by the public, whereas Lyclear ranks 3 with GPs, 2 with pharmacists and 7 with the public.

Overall UK sales of head louse treatments have risen from two and a quarter million units in 1989 to nearly 3 million in 1990 and remained at that level (Anon, 1992). During

this period the National Pharmaceutical Association (NPA) distributed large numbers of leaflets on head lice through 10,000 independent pharmacies nationwide. These state that 'Head Lice Love Clean Adults!' ask 'could you be a carrier?' and tell the reader that little, black specks found on pillows and collars are louse droppings.

The fact is that the public has been offered conflicting and sometimes careless health messages about head lice and it is not surprising if the response is not satisfactory. Traditionally parents have been blamed for allowing their children to catch lice, originally because it was thought that clean hair afforded protection and latterly on the basis that combing twice a day keeps head lice away (NPA, 1989) although this theory was disproved (Monheit & Norris, 1986). The main concern of health authorities throughout has been to organise prompt treatment of identified cases. No justification can be found for taking a censorious attitude to those who treat repeatedly because they suffer reinfection. These cases particularly merit urgent investigation and should not be masaged out of the figures for new infestations.

Few authorities have taken responsibility for monitoring the appropriate use of insecticides and the efficacy of treatments, or possible side effects arising from their use, although CHC, a charity functioning on a shoestring budget, has worked to address mounting anxiety amongst parents and nurses. In July 1989, Hounslow Health Authority (West London) took up the CHC suggestion to restrict distribution of insecticides to those families who brought in a hatched louse specimen. Adoption of this policy limits treatment to genuine cases. CHC also advises close vigilance after treatment because there are reasons to suspect that treatments do not necessarily give a complete egg kill. Tests in Hounslow suggested head lice had already developed incipient resistance to malathion. Burgess (1990; 1991 & 1992) has published work showing shortcomings of carbaryl, malathion and pyrethroid preparations against fully susceptible laboratory lice. Head lice in the field have inevitably had the opportunity to build up resistance and the extent of this should be determined, as Lindsay and Peock propose, by bioassay.

A local factor which Lindsay and Peock

have curiously overlooked is the Summer beginning of the Autumn term on Scotland. Therefore, the observed rise in sales of head lice treatments follows the August return to school.

CHC shares their belief that there is no room for complacency and more detailed studies are required. A harm/benefit analysis of all aspects of control practice is long overdue.

Yours faithfully

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Dear Editor

Head Louse Repellents

The Immunisation and Infectious Disease Committee of the British Paediatric Association were disturbed (1993) by the direct marketing to the general public of Rappell for daily use on children. The spray has been on sale in the UK as a head louse (*Pediculus capitis*) repellent since Autumn 1992. The manufacturers, Charwell Pharmaceuticals, were asked by the Medicines Control Agency in June 1993 to apply for a medicine licence for

which data on efficacy and safety are required.

Peock and Maunder report tests in the December 1993 issue of the *Journal of Royal Society of Health* which found that Rappell (2% piperonal) exhibits 'a repellent action against lice'. Several phrases in this paper eg 'a new, easy to use, low fragrance, pump action spray' read much like the Rappell advertisements.

We are of the opinion that laboratory tests against clothing lice (*Pediculus humanus*) cannot be accepted as a substitute for field trials. The Orlando lice cultured by Burgess, Peock and Maunder at the Medical Entomology Centre (MEC) were persuaded to feed on rabbits in the USA over four decades ago (Culpepper, 1948) and have been kept in isolation since then. It takes about 17 days for a louse to produce offspring of the next generation. Clearly the Orlando colony has been inbred for an enormous number of generations. The MEC has not developed standards of comparison between Orlando lice and UK head lice. Lice are normally host specific and the adaptation to feeding on rabbits of human lice represents a major behavioural change. It casts doubt on the validity of the colony as a test model for any behaviour patterns. Furthermore, in mosquitoes, which have been used extensively to study repellents, it is well known that different species exhibit very different levels of reaction to the same chemicals, indicating that assumptions cannot be made about one species on the basis of results testing another related species (Curtis *et al*, 1987). Notwithstanding this accumulated experience, Peock and Maunder make a statement in the abstract which is neither established nor followed through in the subsequent report. They say 'insecticides found to be effective in the laboratory, have been found to be equally effective in the field'.

Testing with diethyltoluamide (DEET) and then basing the argument on the fact that Rappell works better than DEET is totally inappropriate. Using Dethier's (1947) definition of a repellent as quoted by Peock and Maunder, DEET cannot be called a true repellent, because it apparently masks close range location behaviour, it does not cause 'orientated movements away from its source', DEET has never been proposed as a head louse repellent and the idea that it could be used as such shows a misunderstanding of its mode of

action against mosquitoes.

Peock and Maunder use the results of comparative tests with DEET to suggest that piperonal is relatively safe. These tell us nothing about the effects of daily exposure on children sprayed with Rappell. Parents engaged in a running battle with head lice (Ibarra, 1993) report that they find Rappell is expensive (it was added to the list of items which may not be supplied on NHS prescription in October 1993) and that it does not keep their children free of head lice (Community Hygiene Concern Help Line feedback). Yours faithfully,

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Dear Sirs,

I found the contribution by Denise Worsfold in the December Journal most interesting and useful.

I do not believe that it is essential, in a basic food handlers' course to labour the distinction between food-borne disease and food-poisoning, but neither is it a good idea to confuse the two.

The published article refers to 'Food-poisoning symptoms appearing ... after several days' ... it should be noted that food-poisoning is a reaction to the endo and/or exotoxins produced by food-poisoning organisms, most commonly these are present when the food is ingested as very little bacteria