

## **An epidemiological study of pediculosis in Tours (France) and the relation to pediculicides**

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Recent studies have shown that the treatment against head lice is complicated by the emergence of resistance to traditional pediculicides (Dodd C., 2001). Resistance to synthetic pyrethroids has been reported from different European countries arising the levels of resistance in United Kingdom to permethrin and malathion estimated to 87% and 64% respectively (Downs *et al.*, 1999). Ours studies about the evolution of pediculose at Tours (a 400000 people city in the center of France) since 1990 confirms the decrease of the sensibility to these pediculicides (Cheneveau *et al.*, 2002). This situation is complicated by the absence of products showing a real effectiveness against nits, that contributes, together with social factors, to the apparition of "chronic cases" as has been showed in the same study (Cheneveau *et al.*, 2002). In this context research of new pediculicides becomes a priority that should be associated to preventive actions. We have tried different plant derivate products on lab louse and nits by testing its capacity to kill louse and block nits hatching. Tests were performed by placing of 300µl of the products on paper filters into a 55mm diameter Petri dishes and then between 5 to 10 louse by essay. Number of alive, knocked and death louse were counted during at least 17h. Negative controls were done using distilled water, and positive ones using commercial permethrin, malathion and pyrethroids products. In the case of lab nits, all experiences were done at constant controlled 28°C temperature. Statistic was performed after 14 days, corresponding to the normal time for nits hatching, by counting the hatch number. In all cases, statistic was performed at alpha 0.05. One of the tested products has shown a significant effectiveness, compared to controls, inducing louse dead during the first hours of treatment, and blocking nits hatch. This product has been also tested, by the same method described previously, on head louse, collected on different children identified as "chronic cases" at Tours giving same results that those found on lab louse.

### References

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