A new shampoo based on neem (Azadirachta indica) is highly effective against head lice in vitro.

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Because topical compounds based on insecticidal chemicals are the mainstay of head lice treatment, but resistance is increasing, alternatives, such as herbs and oils are being sold to treat head lice. To test a commercial shampoo based on seed extract of Azadirachta indica (neem tree) for its in vitro effect, head lice (n=17) were collected from school children in Australia and immersed in Wash-Away Lousetrade mark shampoo (Alpha-Biocare GmbH, Germany). Vitality was evaluated for more than 3 h by examination under a dissecting microscope. Positive and negative controls were a commercially available head lice treatment containing permethrin 1% (n=19) and no treatment (n=14). All lice treated with the neem shampoo did not show any vital signs from the initial examination after immersion at 5-30 min; after 3 h, only a single louse showed minor signs of life, indicated by gut movements, a mortality of 94%. In the permethrin group, mortality was 20% at 5 min, 50% at 15 min, and 74% after 3 h. All 14 head lice of the negative control group survived during the observation period. Our data show that Wash-Away Lousetrade mark is highly effective in vitro against head lice. The neem shampoo was more effective than the permethrin-based product. We speculate that complex plant-based compounds will replace the well-defined chemical pediculicides if resistance to the commonly used products further increases.