



Fifth update on Long Lasting Insecticidal Nets Current Status And Programmatic Issues Geneva, 5/01/2004



PermaNet[®] 2.0, a New LLIN Recommended by WHO

The 7th WHOPES Working Group Meeting, held in WHO/HQ, Geneva, 2-4 December 2003, reviewed the results of laboratory and field studies of PermaNet and made the following conclusions and recommendations:

- “PermaNet 2.0 is a long lasting insecticidal mosquito net where the insecticide (deltamethrin, 55 mg a.i./m²) is mixed in a resin coating the netting fibers so that the insecticide is progressively released from the resin and the net retains efficacy after repeated washings. Although PermaNet is treated at a higher concentration of deltamethrin, the transient side effects reported for 1st generation PermaNet were no more frequent than for mosquito nets conventionally treated with deltamethrin at a target concentration of 25 mg a.i./m².
- The 1st generation PermaNet exhibited inconsistent results in terms of initial deltamethrin concentration and wash resistance. Some batches of PermaNet indicated wash resistance up to 20 WHO standard laboratory washes while others were not more wash resistant than conventionally treated nets with deltamethrin. Retreatment of exhausted PermaNet by conventional dipping restored insecticidal activity. PermaNet 2.0 has been consistent in terms of initial deltamethrin concentration and wash resistance. Unwashed PermaNet 2.0 was equally effective as conventionally treated deltamethrin nets against both susceptible and pyrethroid-resistant mosquitoes. Laboratory washing studies and experimental hut studies comparing washed and unwashed PermaNet 2.0 confirm that PermaNet 2.0 retains insecticidal activity up to 20 washes.
- When a WHO-recommended insecticide has been used in the manufacturing of long lasting insecticidal mosquito nets, interim recommendation may be given after specific requirements of laboratory and small scale field studies (experimental huts) have been met. This specific consideration is in response to the urgent need of the control programmes. Interim recommendations will be reviewed and full recommendations may be given, based on the data from large scale studies in different settings.

Recommendations

- Considering the safety, efficacy and wash-resistance of PermaNet 2.0, *interim recommendation* is given for its use in the prevention and control of malaria.
- WHO should support and facilitate large scale field studies of PermaNet 2.0 to confirm long lasting efficacy for malaria and other vector-borne disease prevention and control in different settings.”

Note: PermaNet[®] 2.0 and Olyset Net[®] are currently the only LLINs recommended by WHO for malaria prevention and control. No other LLIN is currently under evaluation by WHOPES. The full report of WHOPES testing/evaluation of PermaNet 2.0 will soon be available on WHOPES homepage on the Internet at: http://www.who.int/ctd/whopes/relevant_docs.htm
