

Evidence Update

Filariasis Series

Does community distribution of diethylcarbamazine (DEC)
-medicated salt reduce lymphatic filariasis
infection in endemic areas?

DEC-medicated salt is a safe and effective method for controlling
lymphatic filariasis when used by entire communities.

Inclusion criteria

Studies:

Randomized controlled trials, other comparative trials and before-and-after studies.

Participants:

Communities in filariasis-endemic areas.

Intervention:

Intervention: DEC-medicated salt at any concentration.

Control: no DEC-medicated salt or a different form of DEC.

Outcomes:

Primary: change in microfilariae (mf) prevalence.

Secondary: changes in disease status and vector infection or infectivity rates.

Adverse events: any adverse events.

Results

- Seventeen community studies were included. DEC concentrations were between 0.1% and 1% for between 2 months and 4 years, and follow up was between 3 months and 19 years.
- In two studies comparing DEC-medicated salt to other forms of DEC, groups receiving DEC-medicated salt had large reductions in mf prevalence.
- Four studies compared DEC-medicated salt to no DEC, and mf prevalence decreased in all the communities receiving DEC-medicated salt; in one study, mf prevalence was reduced to zero with the DEC-medicated salt and remained at zero after 10 years.
- In nine before-and-after studies evaluating the introduction of DEC-medicated salt, mf prevalence fell markedly after 6 months follow up.
- Disease prevalence appeared to decrease in two before-and-after studies.
- Vector infectivity rates fell by between 92% and 100% after 1 year (7 before-and-after studies).
- No serious adverse events and few mild adverse events were reported.



Adapted from Adinarayanan S, Critchley J, Das PK, Gelband H. Diethylcarbamazine (DEC)-medicated salt for community-based control of lymphatic filariasis. *Cochrane Database of Systematic Reviews* 2007, Issue 1. Art. No.: CD003758. DOI: 10.1002/14651858.CD003758.pub2. *Evidence Update* published in November 2007.

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Authors' conclusions

Implications for practice:

DEC-medicated salt is a safe and effective method for controlling lymphatic filariasis when used by entire communities. In the limited number of available studies, DEC-medicated salt reduced infection rates more than other forms of DEC.

Implications for research:

Widespread use of DEC-medicated salt over long periods could encourage drug resistance. New and ongoing studies should therefore carefully document any changes in drug resistance.