

[Available Issues](#) | [Japanese](#)

Author:

[ADVANCED](#)

Volume

Page

Keyword:

Search

[TOP](#) > [Available Issues](#) > [Table of Contents](#) > **Abstract**

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***Wuchereria bancrofti* Filariasis Control in Samoa bel (Pacific Programme to Eliminate Lymphatic Filarias**

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Abstract: *Background*

Samoa was formerly highly endemic for *Wuchereria bancrofti* filaria mosquitoes. Previous control efforts including sporadic mass drug campaigns have reduced the prevalence to low levels but have not stopped the disease. To effectively plan, model and evaluate the worldwide Global Programme to Eliminate Lymphatic Filariasis (GPFLF) need epidemiology (including age and sex-specific prevalence and the der

(Mf)) and estimates of the number of years of MDA required for elimination nationwide MDA campaign carried out in Samoa before the start of the Pacific Programme to Eliminate Lymphatic Filariasis (PacELF) generated extensive data.

Methodology/Principal Findings

MDA campaigns were conducted in Samoa with diethylcarbamazine (DEC) in 1995 and DEC plus ivermectin in 1996 to 1997 for all persons age 5 years and over. Coverage of the MDA, as assessed from the campaign village registers, ranged from 62% to 97% depending on the year, and was over 80% in three out of four village-based surveys. Prevalence of Mf declined from 4.3% in 1993 to 1.1% in 1998 (N=4,054) ($P\chi^2=94.4$, $p<0.001$). Males had a three-fold higher prevalence than females, and this difference remained consistent over the period. Transmission was still occurring over the period as shown by the occurrence of new infections in 3 children less than 5 years old out of 5,691 tested (five-year incidence of 0.53 per thousand children for the period 1993 to 1998), a statistically significant reduction in the geometric mean number of Mf cases between 1993 (11.8) and 1998 (6.9) ($t=2.61$; $p<0.01$). The prevalence of Mf in children with a high density of Mf - over 60 Mf per 60 μ l (1000 per ml) - declined from 4.0% ($P\chi^2=5.6$, $p=0.018$).

Conclusions/Significance

Five years of sustained MDA with DEC (3 years) and DEC plus ivermectin reduced the prevalence of Mf of *W.bancrofti* in Samoa by 74%. Density of Mf in individuals was also significantly reduced. Males had a three to five-fold higher prevalence than women. New infections in children less than five years old still occurred, suggesting that transmission was not completely interrupted. These findings suggest the need to prepare a sound monitoring and evaluation plan for PacELF.

Key words: [Samoa](#), [diethylcarbamazine](#), [Global Programme to Eliminate Lymphatic Filariasis](#), [mass drug administration](#), [PacELF](#)

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