Abstract

Introduction. American cutaneous leishmaniasis is endemic in Colombia, where approximately 6,000 new cases are reported every year. Current prevention and control measures are restricted to the diagnosis and treatment of cases. Objective. To evaluate the efficacy of a multifaceted intervention to prevent the transmission of Leishmania in the endemic focus of Tumaco, on the Pacific Coast of Colombia. Materials and methods. A group-randomized trial was conducted. Twenty villages were matched according to prevalence of Leishmania infection, number of inhabitants and level of community participation, and then randomly assigned to intervention or control. The intervention included deltamethrin-impregnated bednets, repellent (20% diethyltoluamide and 0.5% permethrin), modification of sand fly resting sites, and health education. Villages were under surveillance for one year and the use of the intervention measures monitored. The incidence of American cutaneous leishmaniasis and Leishmania infection in the two groups were compared, adherence to the intervention and adverse events were monitored, and the results were adjusted for village intraclass correlation. Results. Ten cases of American cutaneous leishmaniasis were confirmed in the intervention and 23 in the control group, OR = 0.42, 95% CI 0.14-1.26. The intervention had a greater effect in children < 10 years old, in people living on the periphery of the village and in villages with a prevalence of infection in small children > 1%. Adverse events associated with the use of the bednets and the repellent were reported in 2% of the participants and were always mild. Conclusion. Incident cases of American cutaneous leishmaniasis were reduced by 58% in the intervention group. However, the small number of cases renders the effect estimate imprecise and precludes us to claim a protective effect for the intervention. Specific populations could be the targets of simpler and more cost-effective interventions in the future.

Keywords

Leishmaniasis, cutaneous, /prevention & control, vector control, randomized controlled trials, effect modifiers (Epidemiology), Colombia