Objective. To identify individual risk factors for malaria infection of inhabitants in the residual transmission focus on the Pacific coast of Oaxaca, Mexico. Materials and Methods. A population-based, matched case-control study was conducted from January 2002 to July 2003 comparing the frequency of exposure to individual risk factors in subjects presenting clinical malaria and uninfected controls. A malaria case was defined as an individual living in the study area presenting malaria symptoms and a Plasmodium vivax-positive thick blood smear; controls were individuals negative to P. vivax parasites and antibodies of the same gender and with ± five years as the case. A standardized questionnaire was used to record information about the individual risk factors associated with malaria episodes in cases and two controls for each case. Results. In a multiple conditional logistic regression model analysis of data from 119 cases and 238 controls, 18 out of 99 variables were significantly associated (p< 0.05) with increased risk of malaria, including: being born in another locality (RM 3.16, 95% IC 1.16-6.13); speaking only an autochthonous language (RM= 2.48, 95% IC 1.19-3.77); having poor knowledge about malaria (RM= 2.26 95% IC 1.10-4.66 P< 0.02); the amount of vegetation around the house (RM= 20.43, 95% IC 5.98-70.87, P< 0.000; RM= 3.78, 95% IC 1.21-11.80, for 60-100% and 30-59%, respectively); living in houses constructed with perishable materials (RM= 2.85, 95% IC 1.62-5.01); living on the periphery of the town (RM= 6.23, 95% IC 3.50-11.0); sleeping on a dirt floor (RM= 2.98, 95% IC 1.78-5.01) or with two or more people in the same bed (RM= 1.85, 95% CI 1.09-3.14); not using bed nets (RM= 2.39, 95% IC 1.18-4.83, P< 0.003) or using bed nets with holes (RM= 13.93, 95 IC 2.48-78.01); traveling outside of the village (RM= 9.16, 95% IC 1.98-42.2); and previous malaria cases in the house (RM= 5.84, 95% IC 3.33-10.22). Conclusions. Risk of malaria infection was associated with socio-cultural and environmental factors exposing individuals to mosquito bites. A higher risk of malaria infection occurred outside the locality and by intradomiciliar transmission probably as a result of relapsing asymptomatic relatives.

Keywords
malaria; Plasmodium vivax; risk factors; Mexico