Among 288 HIV-1-infected, breastfeeding women who received zidovudine prophylaxis and were followed with their infants in Nairobi, we found no associations between maternal genetic polymorphisms in CCR5 (59029G/A, 59353T/C, 59356T/C, 59402G/A), RANTES (−403G/A), and SDF-1 (3′801G/A) and mother-to-child HIV-1 transmission; plasma, cervical, and breastmilk viral loads; or breastmilk chemokine concentrations.