

Intra-Household Use of Mosquito Nets: Who Sleeps Under the Net?

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Background

Children under five years of age and pregnant women are most vulnerable to severe malaria and should be given preference for sleeping under a mosquito net. Malaria prevention programs promoting insecticide-treated nets (ITNs) often assume that if a net is delivered to a pregnant woman or mother of a young child, the net will be used by those household members. But to what extent does ownership translate into use by the most vulnerable, leading to public health impact? Which household members are most, and least, likely to sleep under a net if one is present in the household? Is there any gender bias in net use among children?

Methodology

Data collection

- Household survey
- 2000 & 2004 – Nigeria, Senegal, Zambia
- 2004 – Ghana, Ethiopia

Sample

- Women aged 15-49 who were mothers/ guardians of children under five years of age.
- 40% from urban center; 60% from rural areas up to 200km away

	Number of households		Number of people in net-owning households	
	2000	2004	2000	2004
NIGERIA: Lagos, Ibadan, Kano, Maiduguri, Nsukka	1000	2000	588	3043
SENEGAL: Dakar, Thies, St. Louis, Kaolack, Tambacounda	1000	2000	2682	10538
ZAMBIA: Lusaka, Choma, Kaoma, Kitwe, Mansa	1000	2000	1044	6203
GHANA: Accra, Keta, Kumasi, Wa, Tamale		1500		2987
ETHIOPIA: Bahir Dar, Nazret, Dire Dawa, Dessie, Awassa		1500		1244

The data sets include an enumeration of household members and information on age, gender and pregnancy status of each, and a means of linking each person with a net. The graphs below show which members of net-owning households slept under a net the night prior to the survey. Baby nets are included for children less than two years old. The analysis was conducted ONLY among net-owning households.

Results

Net use by vulnerable groups

- In all countries, vulnerable household members were most likely to be under the net: children under five and especially those under two, and pregnant woman (see Figure 1). The exception was Ethiopia, where fewer pregnant women than non-pregnant women of reproductive age slept under a net.
- Among under-fives, net use was highest in the 0-1 cohort and next highest in the 1-2 cohort, and leveled off in most counties by ages three and four (see Figure 2).
- In all countries, children age 5 - 14 and men over age 15 were least likely to be under a net.
- There were no gender differences in childhood net use.

Net allocation over time

- In 2000, household net allocation patterns were generally good and in 2004 they were even better, with higher levels of net use by vulnerable groups.
- In Nigeria, the percent of under-fives and pregnant women under a net in net-owning households decreased since 2000 due to a larger number of unused nets, although these two groups were still more likely than other household members to be under a net (see Figure 3).
- In Zambia, the proportion of pregnant women under a net increased dramatically from 2000 to 2004, rising from 18% to 51% (see Figure 3).

Figure 1: Percent of household members who slept under a net the prior night, among net-owning households

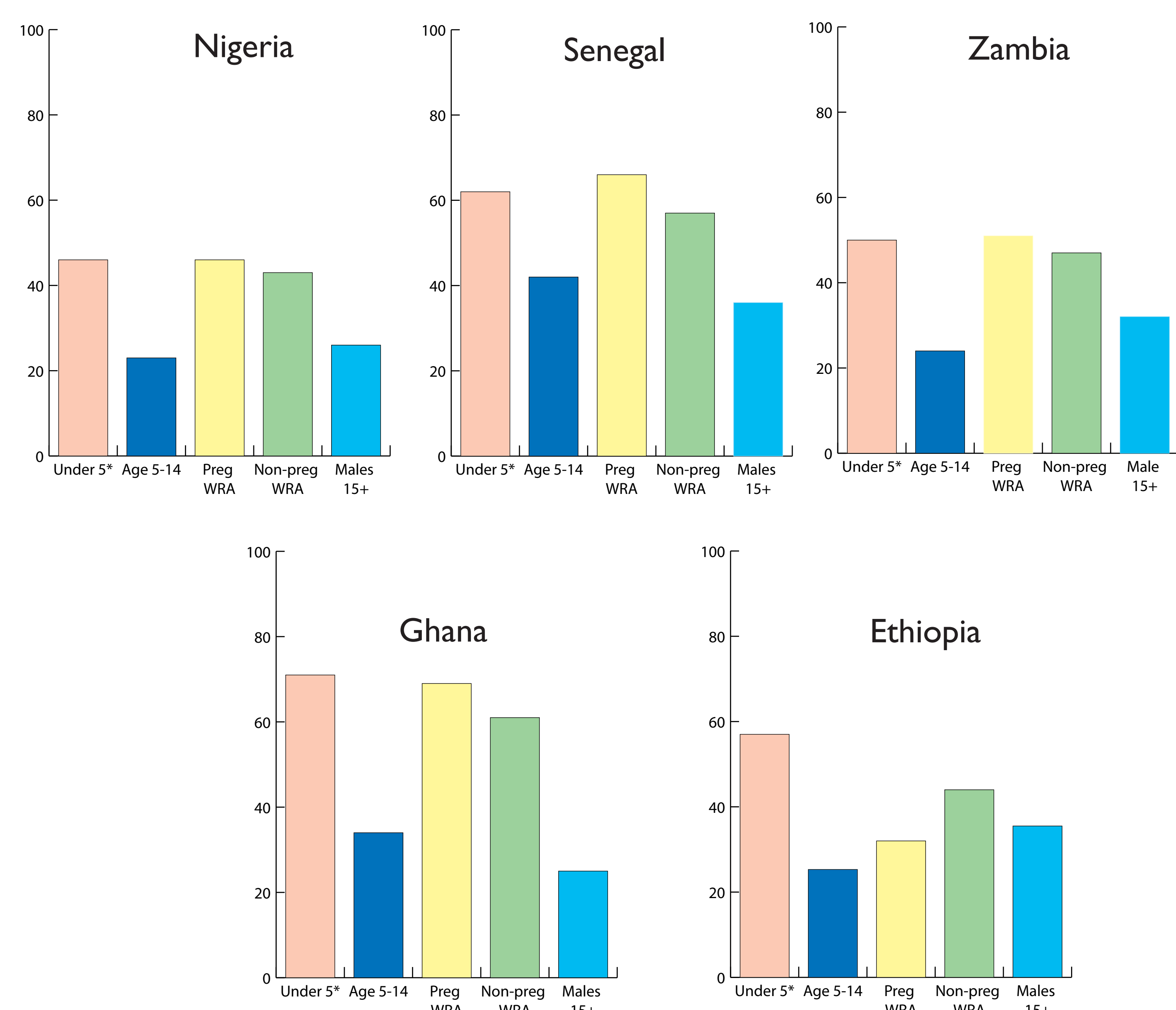


Figure 2: Percent of under-fives (in net-owning households) sleeping under a net, by yearly cohort

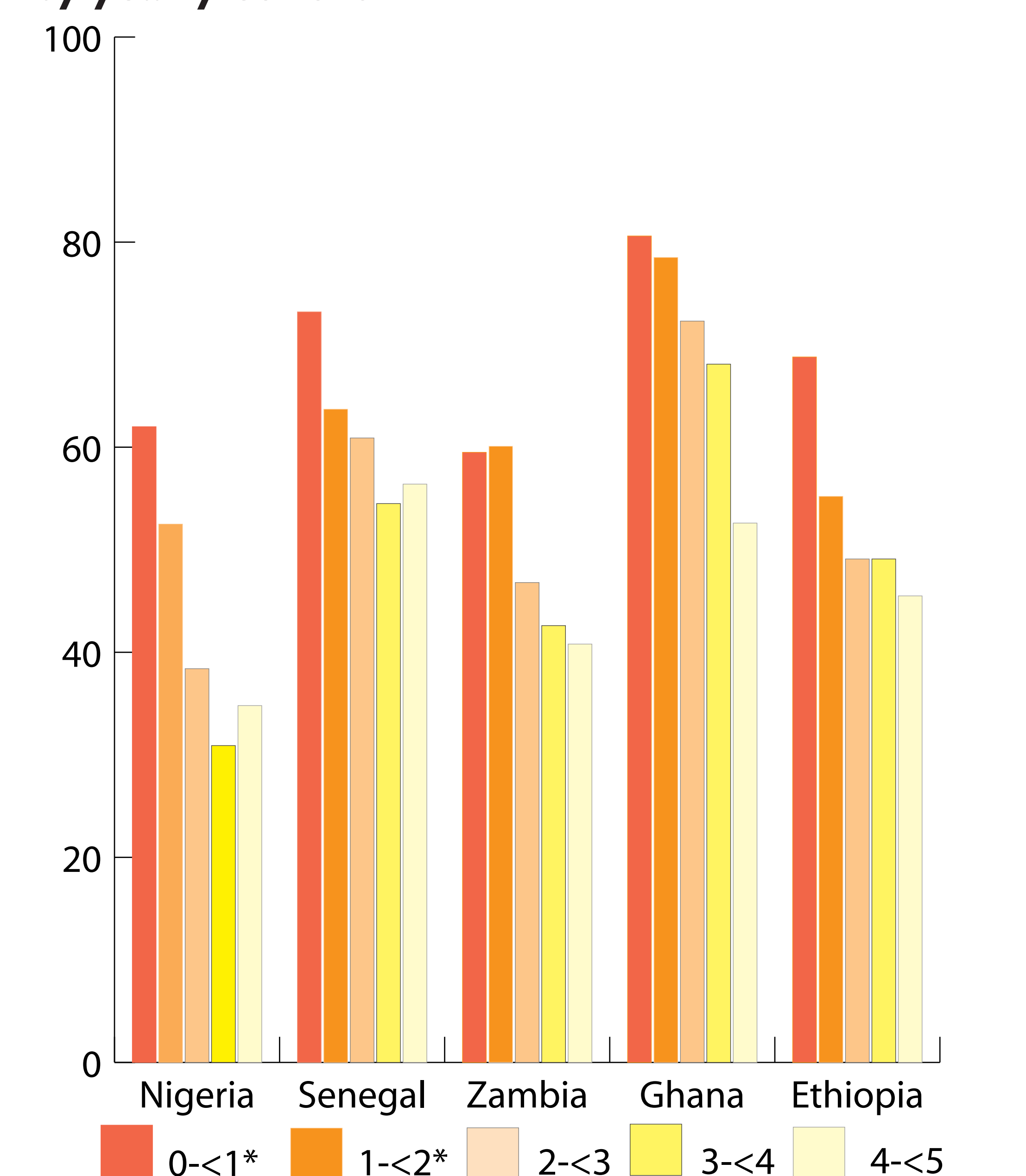
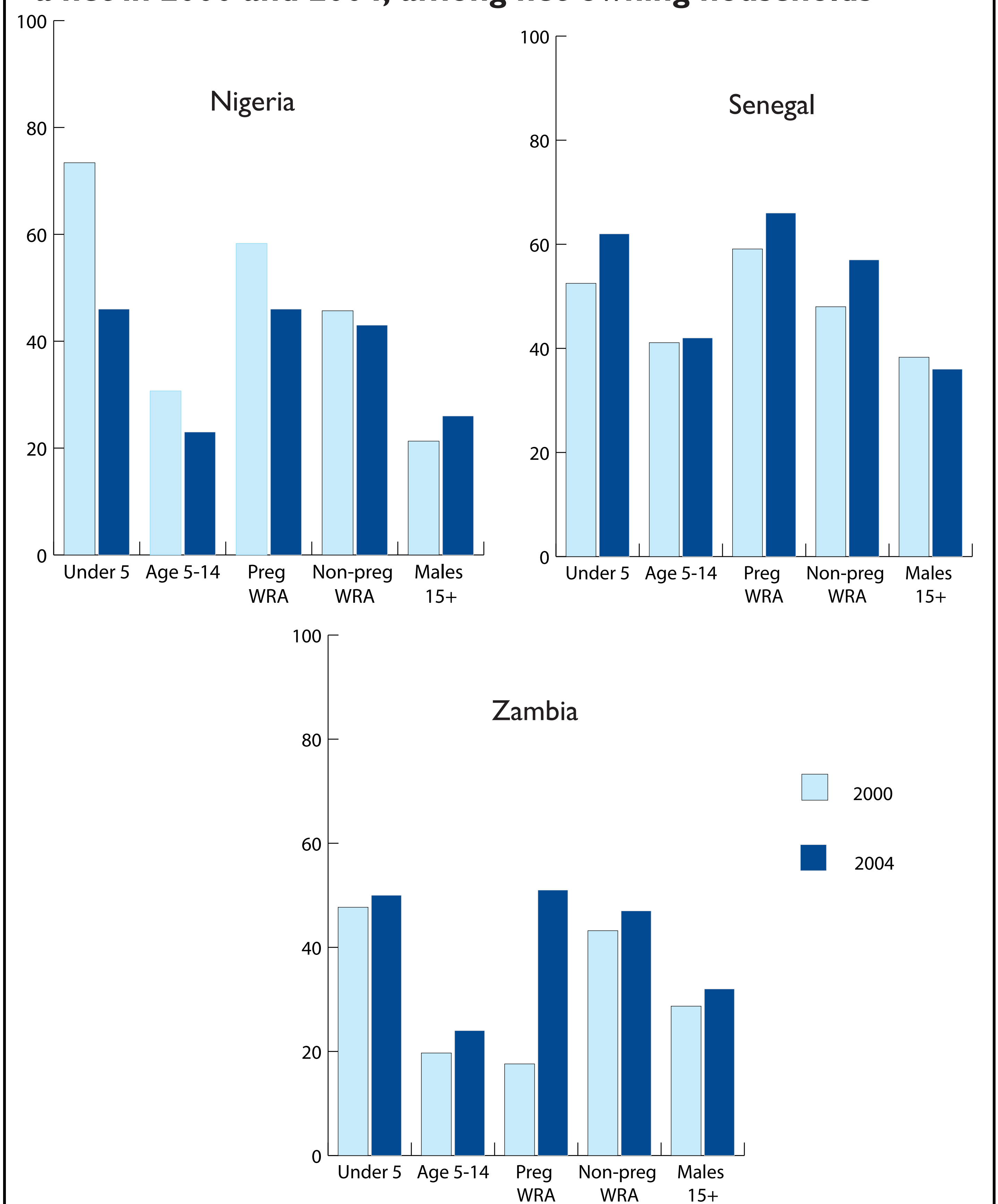


Figure 3: Percent of household members sleeping under a net in 2000 and 2004, among net-owning households



Conclusions

Contrary to popular belief that men are most likely to use household nets, our data show that the most vulnerable groups -- children under five and pregnant women -- are most likely to sleep under the net. ITN promotion programs need only periodically to reinforce messages about who should use the net, rather than make this a priority message.