

EXECUTIVE SUMMARY

NETMARK CROSS-NATIONAL SUMMARY OF FINDINGS

- PURPOSE:** Compare 5 countries on indicators related to:
- Knowledge and beliefs about mosquitoes and malaria
 - Beliefs and attitudes about use of treated and untreated mosquito nets
 - Access, affordability, and ownership of mosquito nets
 - Net treatment practices
 - Use of nets and treated nets by vulnerable groups: children under five, pregnant women, and women of reproductive age
 - Consumer preferences regarding mosquito nets
 - Usage and attitudes regarding other mosquito control products

METHODOLOGY: Survey

SAMPLE: Five countries – Nigeria, Senegal, Zambia, Uganda, and Mozambique – each with a sample of 1000 households drawn from 5 sites representing the geo-ethnic diversity of each country. Target sample in each site was 200: 80 respondents from urban households, 60 from households within 100km, and 60 from households 100-200 km from the urban center. Respondents were women aged 15-49 who were mothers/guardians of children under five years of age.

DATA COLLECTION: October-November 2000

STUDY FINDINGS:

Knowledge and beliefs about malaria, mosquitoes, and nets

- Recognition of the term “malaria” (or “paludisme” in Senegal or “paludismo” in Mozambique”) was very high, ranging from 86%-100%. Although the majority of those who recognized the term knew that mosquitoes cause malaria (77%-92%), a much smaller percentage (21%-42%) knew that mosquitoes are the *only* cause of malaria. General knowledge of symptoms was good: 62%-89% mentioned “fever” and 29%-47% mentioned “chills/shivering”, a symptom of fever; most named other symptoms that are also manifestations of malaria. Very few (1%-6%), however, mentioned convulsions, a symptom of severe malaria. Knowledge of vulnerable groups was moderate to high: Children under five and pregnant women were named by 55%-86% of respondents as the groups most susceptible to getting a serious case of malaria.
- Exposure to malaria-prevention information varied greatly, ranging from a low of 40% in Nigeria to a high of 91% in Senegal. Of those who had seen/heard information, most had received information via the radio, health facilities, and neighbors/friends. In Nigeria, a particularly high percentage of respondents (18%) got information from non-professional sources of information (friends, neighbors or relatives).
- Almost all respondents (92%-100%) perceived advantages for a child under five sleeping under a mosquito net. Most commonly mentioned were “avoid getting bitten by mosquitoes,” “avoid getting malaria,” and “sleep better.”

- Those citing disadvantages for a child under five sleeping under a mosquito net ranged from a low of 15% in Mozambique and Senegal to a high of 68% in Nigeria. The most commonly mentioned disadvantages were “it is hot sleeping under a net,” “child may suffocate,” “child may get caught/trapped.”
- The majority of respondents (82%-95%) perceived advantages for a child under five sleeping under a *treated* net. The most commonly mentioned were “kills mosquitoes,” “repels mosquitoes away from the net,” “works better against mosquitoes than an untreated net,” “better at preventing malaria,” and “child is more protected.”
- Those citing disadvantages for a child under five sleeping under a *treated* net, ranged from a low of 18% in Mozambique to a high of 66% in Uganda. The most commonly mentioned disadvantages were concerns about the safety of the chemical: “smell is bad,” “the chemical is dangerous,” or even that the “chemical can kill the child.”
- The majority of respondents (77%-93%) perceived advantages for a pregnant woman sleeping under a *treated* net. Advantages had to do with the greater efficacy of a treated net: “kills mosquitoes,” “repels mosquitoes away from the net,” “works better against mosquitoes than an untreated net,” “is better at preventing malaria,” and “the pregnant woman is more protected.”
- The proportion citing disadvantages for a pregnant woman sleeping under a treated net ranged from a low of 22% in Mozambique to 65% in Nigeria. The most commonly mentioned disadvantages had to do with safety and smell issues: “chemical is dangerous,” “smell is bad,” “might make woman nauseated/vomit.”

Access to nets

- Nets were available through different commercial and non-commercial outlets. Open-air markets, as well as general shops, were reported to be the nearest places respondents said they could purchase a net.
- The average time to get to the nearest place of purchase ranged widely between countries. Access appeared best in Senegal where almost half (47%) said they would get to the nearest place on foot in an average of 13 minutes. From 4% (Nigeria) to 28% (Mozambique) did not know a place where they could obtain a net.

Net ownership and characteristics of nets owned

- The proportion of households owning at least one mosquito net ranged from a low of 12% in Nigeria to a high of 34% in Senegal and Uganda. Those owning more than one net ranged from 25%-52%. (These figures may be higher than the national average, given that some of the sample sites have active net promotion projects.) Ownership was higher in urban than in rural areas in Zambia, Mozambique, and Uganda; equal in Nigeria; and higher in rural than urban areas in Senegal. Households of higher the socio-economic status were more likely than households of lower socio-economic status to own a net in all countries, except Senegal where the reverse was true.
- Nets were obtained primarily through the commercial sector in all five countries. Non-commercial sources accounted for a sizable portion of nets in Zambia (28%). Over half of all nets owned by households in all countries were acquired within the last three years.
- In Nigeria, Senegal, Zambia, and Uganda, households reported paying an average of 4.92-5.48USD per net. In Mozambique households reported paying 11USD (conversion based on the exchange rate for the dollar on the date of data collection).
- Owners did not know the brand name for the majority of nets. In Senegal and Nigeria, tailor-made (non-manufactured) nets comprised 19%-38% of nets owned.
- One of the most common net sizes owned were double. Single-size nets were fairly common in Nigeria and Uganda and king-size nets in Senegal and Mozambique. The most common shapes in Nigeria and Senegal were rectangular. In Zambia, Uganda, and Mozambique most were round/conical.

- The great majority of nets (69%-94%) had been washed. At least half (50%-77%) of nets that had been washed, were washed at least once a month and at least one fourth (26%-53%) were washed at least every two weeks.

Net treatment

- Awareness of treating nets was moderate in Zambia and Senegal (51%-70%), low in Mozambique and Uganda (28%) and lowest in Nigeria (7%). Few households owned a treated net (0%-11%). Zero- 35% of nets were ever treated, with the highest percentage found in Zambia and the lowest in Nigeria. On average, those nets had been treated/re-treated 1.7-2.7 times and were last treated 4-6 months ago. Treatment was obtained mostly from non-commercial sources, such as projects, clinics or gifts. The average price of treatment ranged from .74-1.73USD.

Appropriate use

- In net-owning households, about 48%-53% of children under age five slept under a net (treated or untreated) the prior night, representing 9-25% of all children in the households in the sample. Only 1%-17% of these children slept under a *treated* net the prior night, representing 0%-6% of all children in the households in the sample.
- The number of women of reproductive age (WRA) in net-owning households who slept under a net (treated or untreated) the prior night ranged from 42%-67%, representing 6%-23% of the total number of women of reproductive age in the households in the sample. Only 0%-15% of WRA slept under a *treated* net the prior night, representing 0%-5% of WRA in the households in the total sample. Eighteen percent (18%) – 69% of pregnant women in net-owning households slept under a net the prior night, representing 4%-21% of pregnant women in the households in the total sample. Only 0%-17% in net-owning households slept under a treated net the prior night, representing 0%-6% of all pregnant women in the sample households (note: denominators very small for pregnant women).
- For those household members who did sleep under mosquito nets, the average number of months per year they slept under nets was 6 -10.

Consumer mosquito net preferences

- The majority of respondents in all countries except Nigeria preferred round/conical shaped nets but rectangular nets were also liked. In Nigeria, the majority preferred rectangular nets. Consumers in all countries preferred large nets, either king or double-sized.
- Most respondents preferred light-colored nets. In general, respondents disliked dark colored nets.

Awareness and use of other mosquito control products

- Mosquito nets were the mosquito control product consumers were most aware of in Zambia, Mozambique, and Uganda. In Nigeria and Senegal, consumers were most aware of coils and aerosols. Aside from nets, the most frequently used products were coils and aerosols. Use of aerosols was higher in urban than in rural areas. Use of coils was higher in rural than in urban areas everywhere but Zambia.
- Mosquito coils were purchased relatively frequently among the 25-62% of households that had purchased them in the last 12 months prior to the interview, with over one-fourth (26%) of respondents having purchased them within the last week. Coils were generally purchased in open-air markets, kiosks, and from street vendors in Nigeria and Mozambique. In Senegal and Uganda, coils were generally purchased from general shops.

Aerosols were generally purchased through open-air markets and kiosks in Nigeria; general shops and supermarkets in Senegal, Zambia, and Uganda; and open-air markets and street vendors in Mozambique.

Perceptions of mosquito control attributes, products, and brands

- Consumers in all countries wanted a mosquito control product that kills mosquitoes and reduces malaria. Nets, compared to aerosols or coils, were rated more positively on many insect control attributes, in all countries, except Nigeria. Aerosols were most strongly associated with killing mosquitoes and other insects.
- Brand awareness was highest for “Mobil” in Nigeria, “Yotox” in Senegal, “Target” in Zambia, “Doom” in Uganda, and “Baygon” in Mozambique.

PROGRAM/PRODUCT IMPLICATIONS:

There are many very favorable aspects for ITM promotion in all countries surveyed, as well as some important barriers to overcome.

Favorable factors include:

- high awareness of malaria and general understanding of how it is transmitted
- adequate levels of knowledge of vulnerable groups in Uganda and Senegal
- moderate to high exposure to information on avoiding malaria in all countries, except Nigeria
- common use and relatively frequent purchase of other mosquito control products (aerosols, coils) in Senegal and Nigeria
- high awareness of mosquito nets as an insect control method and highly favorable attitudes toward mosquito nets compared to other insect control products
- a net culture that is already being established (moderate level of net ownership and recent acquisition of nets) in all countries, except Nigeria
- commercial sector already primary source for net purchase
- moderate levels of net use by children under five in households who own nets
- already moderate level of ITM awareness in two countries – Senegal and Zambia
- strong valuing of the product attributes that ITMs deliver
- high level of perceived advantages of *treated* net use in all countries; relatively low levels of perceived disadvantages in all countries except Nigeria and Uganda

Main barriers to overcome for ITM promotion are:

- misperceptions about the causes of malaria
- only moderate levels of knowledge of vulnerable groups in Zambia, Nigeria, and Mozambique
- inadequate exposure to malaria prevention messages in Nigeria
- moderate levels of perceived disadvantages of net use by children under five in Nigeria and Uganda
- moderate levels of perceived disadvantages of *treated* net use by vulnerable groups, particularly in Nigeria and Uganda
- concerns regarding the safety and potential adverse health effects of treated nets, particularly with regard to young children and pregnant women
- dislike of nets or perception that they are unnecessary in Senegal and Nigeria
- perceived high cost of nets
- lack of strong branding of nets
- limited access to nets in all countries, except Senegal
- lack of variety in net size, shape, and color
- lack of even a nascent “net culture” in Nigeria
- very marginal availability of insecticide treatments through commercial sector
- low levels of ITM awareness in Uganda, Mozambique, and Nigeria
- inadequate use of ITMs by young children and pregnant women; use only part of the year
- low rates of net treatment/retreatment