

EXECUTIVE SUMMARY

NETMARK BASELINE SURVEY ON INSECTICIDE-TREATED MATERIALS

UGANDA

PURPOSE: Provide baseline measures of

- 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: 1000 Ugandan households from 5 sites: Kampala, Masaka, Soroti, Hoima and Mbarara. 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: November 2000

STUDY FINDINGS:

Knowledge and beliefs about malaria and mosquitoes

Recognition of the English term “malaria” was nearly universal. Knowledge of symptoms and vulnerable groups was good. However, knowledge of mosquitoes as the only cause of malaria was poor. Exposure to information about malaria prevention was good and came mainly from the radio.

- Virtually all respondents (99.6%) reported having heard of the English term “malaria.” Seventy-one percent (71%) mentioned fever as a main symptom of malaria and many also mentioned other symptoms that are also manifestations of malaria; however, only 6% mentioned convulsions, a symptom of severe malaria. Most (80%) knew that children under five and pregnant women are most susceptible to getting a serious case of malaria. Although the vast majority of those who recognized the term knew that mosquitoes cause malaria (92%), only 21% knew that mosquitoes are the *only* cause of malaria.
- Most (81%) respondents said they had received information about avoiding the disease in the last 12 months. The majority had heard information from the radio. Other common sources were health staff (45%) and non-professional sources such as neighbors and friends (45%).

Perceived advantages and disadvantages of net use by vulnerable groups

Levels of perceived advantages of net use by vulnerable groups—children under five and pregnant women—were extremely high. Nets were seen as providing good protection against mosquitoes and malaria. *Treated* nets were seen as especially effective, with the added advantage of being better at preventing malaria and killing and repelling mosquitoes. The disadvantages cited of a child under five sleeping under a net related mostly to concerns about suffocation and entrapment. Respondents cited disadvantages of *treated* nets, voicing concerns about the safety of the chemical and its smell.

- Virtually all respondents (99.8%) perceived advantages for a child under five sleeping under a mosquito net. Most commonly mentioned were “avoid getting bitten by mosquitoes”(81%) and “avoid getting malaria” (62%).
- About one-third (32%) of respondents cited no disadvantage for a child under five sleeping under a mosquito net. The most commonly-mentioned disadvantages were “it is hot sleeping under a net” (24%), “child may suffocate” (23%), and “child might get caught/trapped” (21%).
- Almost all respondents (93%) named advantages for a child under five sleeping under a *treated* net. The most commonly mentioned were “kills mosquitoes” (48%), “is better at preventing malaria” (46%), “works better against mosquitoes than an untreated net” (40%), “repels mosquitoes away from net” (30%), and “child is more protected” (24%).
- One-third (34%) did not mention any disadvantage of a child sleeping under a *treated* net. The most commonly mentioned disadvantages were that the “chemical is dangerous” (33%), “causes irritation/cough/ or other illness”(30%), “smell of the chemical is bad” (21%), and that the “chemical could kill a child” (15%).
- The vast majority of respondents (91%) perceived advantages for a pregnant woman sleeping under a *treated* net. The most commonly mentioned were “is better at preventing malaria” (50%), “kills mosquitoes” (39%), “works better against mosquitoes than a net that has not been treated” (33%), “pregnant woman is more protected” (30%), and that it “repels mosquitoes away from the net” (22%).
- Twenty-eight percent (28%) did not cite any disadvantage for a pregnant woman sleeping under a *treated* net. The most commonly mentioned disadvantages were that the smell of the chemical is dangerous and could kill fetus or cause miscarriage (38%) and that the chemical “smell is bad” (37%) and “might make woman nauseated/vomit” (37%).

Access to mosquito nets

Nets are available primarily from commercial outlets, which are reasonably accessible to urban dwellers but fairly far from rural dwellers.

- About half (53%) of respondents reported that the general shop was the nearest place where they could buy mosquito nets and another 18% said the closest place was an open-air market. Five percent (5%) said nets were unavailable or they did not know where they could obtain one.
- To get to the nearest place where a net could be obtained, respondents would travel principally by foot (45%), local taxi (32%) or bus (8%). The median amount of time for urban residents traveling on foot was 19 minutes, compared with 38 minutes for urban residents. For those taking a local taxi, the median number of minutes required was 22 minutes for urban residents and 57 minutes for rural residents.

Mosquito net ownership, treatment, and use

Net ownership varied considerably by site. Non-owners said that the main reason they did not own was cost. Children under five and pregnant women are favored for net use, although rates of use are low. Nets were not used year-round. Awareness of treatment of nets with insecticide was low and few people treated their nets. Treatments had been obtained from both commercial and non-commercial sources.

- One-third (34%) of households reported owning at least one mosquito net and half (51%) of these households owned more than one mosquito net. Net ownership was lowest in the Masaka site (19%) and highest in the Soroti site (44%). Households of higher socio-economic status and those located in urban areas were more likely than others to own a net. The majority of respondents from non-net-owning households (86%) said that they did not own a net because they did not have enough money.
- Only (29%) of households had heard of treating mosquito nets with insecticide solution. Only 4% of households owned a treated net; 12% of nets owned had been treated. On average, these nets had been treated/re-treated 2 times and were last treated 4.3 months ago. Treatments were obtained both from non-commercial and commercial sources, most commonly projects (24%), clinics (18%), general shops (16%), and pharmacy (9%). Most consumers (73%) did not know what product was used to treat the net. Those from higher SES households were more likely to be aware of net treatment and also more likely to have a treated net.
- About 75% of children under five in net-owning households slept under a net (treated or untreated) the prior night, representing 25% of all children in the households in the sample. Only 9% of these children slept under a *treated* net the prior night representing 3% of all children in the sample.
- Two-thirds (67%) of women of reproductive age (WRA) in net-owning households slept under a net (treated or untreated) the prior night, representing 23% of the total number of reproductive age in the household sample. Only 7% slept under a *treated* net the prior night representing 3% of WRA in the household total sample. Sixty-nine percent (69%) of pregnant women in net-owning households slept under a net the prior night, representing 21% of pregnant women in the households in the total sample. Only 5% of pregnant women in net-owning households slept under a *treated* net, representing 2% of all pregnant women in the sample. (The denominators for pregnant women, however, were very small.)
- Among net-owning households, the average number of months per year nets were used was 9.9.
- The typical pattern is for two or three people to sleep under a large net.

Characteristics of nets owned

Most nets had been obtained from commercial sources and had been acquired within the past 3 years. Almost all were rectangular or round/conical shaped and either double or single sized. Nets were commonly unbranded products; most consumers were unaware of the brand. The price of nets varied considerably. About three-fourths of the nets were reportedly washed at least once a month.

- About half (48%) of the nets owned were purchased in a general shop, 13% in a market, 8% from a street vendor and 7% from a textile shop. Higher SES households purchased their nets from formal commercial sources, whereas lower SES households were more likely to obtain their nets from informal commercial sources. Two-thirds (67%) had been acquired within the past 3 years.
- Households reported paying an average of USD 5.48 per net (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 (81%) of their nets. Twelve percent (12%) were reported to be the PowerNet brand; 7% were tailor-made (non-manufactured) nets.
- The most common net sizes owned were double (52%) and single (39%). The most common shapes were round/conical (53%) and rectangular (43%).
- The great majority of nets (94%) had been washed. About three-fourths (77%) of washed nets were reportedly washed at least once a month with 37% of nets reportedly washed at least every two weeks. Most treated nets were reported to have been washed 1-4 times since last treatment.

Consumer mosquito net preferences

Households, whether net-owning or not, liked round/conical and rectangular-shaped nets. They preferred large sizes and light colors.

- Forty-five percent (45%) of respondents preferred round/conical nets and 39% preferred rectangular nets. Preferred net sizes were double (56%) and king (22%).
- Forty-seven percent (47%) of respondents preferred white nets; 13% light blue; and 12% pink. Fifty-nine percent (59%) disliked black nets; 32% dark green nets; 26% dark blue nets; and 19% disliked white nets.

Awareness, use, and price of mosquito control products

Mosquito nets, aerosol insecticides, and coils were the mosquito products that consumers were most aware of. Use and frequency of purchase of insecticides and coils was relatively low.

- Awareness (unprompted) of mosquito control products was highest for mosquito nets (89%), aerosol insecticides (68%), and mosquito coils (65%). About 37% used coils and 37% used aerosol insecticides. (These use figures may be low, given that “use” was asked only of those who indicated unprompted that they were aware of a given product.) Use of aerosols was higher in urban areas whereas use of coils was similar both urban and rural areas.
- Nearly half (47%) of households that had purchased mosquito coils in the 12 months prior to the interview did so within the last 7 days. Three-fourths (72%) of households that had purchased aerosols in the 12 months prior to the interview did so within the last month. Coils were purchased mostly in general shops (68%), as were aerosols (66%). The average reported prices were USD 1.53 for a 300-350 ml can of insecticide and USD 0.09 for a single mosquito coil.

Perceptions of mosquito control attributes, products, and brands

Consumers wanted a mosquito control product that kills mosquitoes, reduces malaria, and keeps mosquitoes away while sleeping. Among all insect control products, nets were rated most highly on every positive mosquito control attribute except “killing mosquitoes and other insects.” Consumers were most aware of Doom brand and associated it with the attributes of insect control products they value.

- On a scale of 1-7, respondents said that the most important attributes of mosquito control products were “kills mosquitoes” (5.86), “reduces malaria” (5.7), “keeps away mosquitoes while sleeping” (5.68), and “keeps away mosquitoes for a long time” (5.38) and “is safe to use around children” (5.34).
- Respondents rated mosquito nets more highly than all other insect control products on the majority of insect control product attributes including, is safe to use around children (76%), “keeps mosquitoes away while sleeping” (75%), “reduces malaria” (69%), “is good value for money” (60%), “is a high quality effective brand” (59%), “is a long-term solution to mosquito problems” (55%), and “keeps mosquitoes away for a long time” (51%). Sprays/aerosols were considered to be the best products to kill mosquitoes (84%) and to kill other insects other than mosquitoes (76%).
- Brand awareness was highest for Doom (94%) and moderate for other brands. Respondents associated the Doom brand with positive insect control attributes that they value.

PROGRAM/PRODUCT IMPLICATIONS:

The overall setting for ITM promotion and sales is favorable, but efforts are needed to overcome negative perceptions of nets and insecticide treatments and to increase awareness of ITMs.

The favorable factors for ITM promotion and malaria prevention in Uganda include:

- Nearly universal recognition of the term “malaria”; very good knowledge of malaria symptoms and those most vulnerable; good general understanding of how malaria is transmitted
- Highly favorable attitudes toward mosquito nets compared with other insect control products
- Moderately high levels of net ownership and beginnings of a “net culture”
- Very high level of perceived advantages of net use
- Preferential net use by vulnerable groups in households that own nets

The main barriers to overcome for ITM promotion include:

- perceived high cost of nets
- limited access to nets in rural areas
- lack of variety in net size, shape, and color
- concerns regarding the safety and potential adverse effects of treated nets, particularly with regard to young children and pregnant women
- low availability of insecticides through the commercial sector
- lack of strong branding of nets and insecticide treatments;
- low levels of awareness of net treatments and its benefits and inadequate net treatment practices