Bednet Use and Malaria Knowledge in Zaria City, Nigeria

By Elisha P. Renne, Kelly Kirby, and Roopa Akkineni

The distribution of insecticide-treated bednets (ITNs) and education about their use are two of the most important strategies to prevent malaria and, thus, to prevent malaria, is widely accepted as a community health intervention. While this initiative has strong support from the World Health Organization, questions have been raised about recipients’ knowledge of optimal use of bednets and their importance in reducing malaria. Last year, researchers from the University of Michigan and from Ahmadu Bello University-Zaria conducted a preliminary study of knowledge about bednet use and the implementation and distribution of bednets in Kaduna State, Northern Nigeria, to address questions of who has bednets, how people are using them, and whether they have experienced malaria. This project had three primary goals: to improve ITN use, to provide education about malaria prevention, and to strengthen the links between public primary schools and primary health care clinics in Zaria City.

Preliminary Research Findings, Summer 2007

Four U-M researchers participated in the project, including Stuart Batterman (Public Health and English), Elisha Renne (Center for African-American and African Studies and Anthropology), Kelly Kirby, a graduate student in Anthropology (with funding from the U-M-GHRT project, including Stuart Batterman (Public Health and English)), and Roopa Akkineni, an under-graduate in cellular/molecular biochemistry and anthropology (with funding from UROP). In June 2007, Professors Renne and Batterman met with Ahmadu Bello University project co-investigators, Mauro Bugaya, a Pediatrics physician, and Rabiu Isah, a Theater Arts lecturer, to discuss the summer research project that was carried out in association with the ABUTH Institute of Child Health-Ban Zazzau. They also met with Alhaji Ismaila Nabara, the headmaster of one primary school who had pre-arranged interviews for their mid-July household surveys. By the end of the project, they had received the interview data and were provided an overall view of the main health problems in the area. It was within such a context that they analyzed the data on the prevalence of childhood diseases in Zaria City, finding that several common ailments of children coming to the clinic were malaria and upper-respiratory tract infections (URTIs).

Assessment of Bednet Use

A follow-up assessment of bednet use was conducted in mid-August 2007 among 52 mothers (selected on the basis of previous ITN non-use or non-ownership) who had received bednets. Of 39 women who did not own ITNs in July 2007, 72 percent were using the bednets that they had received through the project. Reasons for not using them included: could not put up net, wrong size of a window screen because too small, washing net, or waiting for a new bed. As a result of these follow-up interviews, assistance was given in hanging nets and larger king-size nets were exchanged for the family-size nets that were too small. Of six women who had ITNs in July but had not been using them at the time, five were using them at the August visit. These results underscore the importance of adequate instruction, assistance, and follow-up to accompany ITN distribution.

School Intervention

The 2007 pilot study included distribution of booklets on malaria to teachers, a coloring book contest based on a play on malaria and bednets (fig. 1), and presentation of a play on malaria and bednets (fig. 2). Parents were invited to the school performance and several mothers attended, which has important implications for future malaria education and ITN distribution in Zaria City. In Zaria City, married women generally leave their houses only for socially-approved reasons, such as illness of a child or themselves, Islamic education classes, visits to family members for birth and marriage ceremonies or illness, or for work as nurses or teachers. The fact that several mothers were able to attend a school performance indicates that this setting offers an underexploited site for the education of mothers and their children.

Establishing Links with ABUTH Institute of Child Health-Ban Zazzau

Another aspect of the summer 2007 project included data analysis at ABUTH Institute of Child Health-Ban Zazzau. Ms. Kirby and Ms. Akkineni worked closely with the ABUTH Institute staff in data compilation and analysis, an initial step in building capacity for disease monitoring in this clinic. Analysis of patient files of children during January-April 2007 shows that malaria and upper respiratory tract infections (URTIs) are the primary health problems for infants and children under five attending the ABUTH Institute of Child Health-Ban Zazzau clinic, dramatically supporting the importance of improving effective ITN use in Zaria City.

Conducting Research in Zaria City

Kelly Kirby

Each morning we met with the headmaster of one primary school who had pre-arranged interviews for the day. All of the interviewees were mothers who had been notified beforehand and agreed to be interviewed in their homes. The interviews themselves were carried out mostly by Hassana Yusuf, an experienced research assistant, Binta Haruna, a teacher from a local school, and Ms. Kirby (Inset 1). When questioned, all mothers referred to malaria as its cause. Of 100 mothers, 65 percent had one or more children with the malaria symptom of fever (zazzabi) during the month prior to the interview (Inset 2). They also met with Alhaji Ismaila Nabara, the headmaster of one primary school who had pre-arranged interviews for their mid-July household surveys. By the end of the project, they had received the interview data and were provided an overall view of the main health problems in the area. It was within such a context that they analyzed the data on the prevalence of childhood diseases in Zaria City, finding that several common ailments of children coming to the clinic were malaria and upper-respiratory tract infections (URTIs).

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