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# Mosques against malaria

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*In a community-based malaria control project covering a predominantly Muslim population in the United Republic of Tanzania, difficulty was encountered in motivating people to have their mosquito nets reimpregnated with insecticide at six-monthly intervals. Education on this subject was therefore provided in mosques during Friday noon prayers. People who attended these services considered them an appropriate forum for discussing health concerns and viewed them as a credible source of information*

The spread of resistance to chloroquine in the malaria parasite (*Plasmodium falciparum*) throughout sub-Saharan Africa, and the side-effects and relatively high costs associated with other drugs active against it, have stimulated a search for alternative methods of controlling the disease. Bednets, impregnated every six months with pyrethroid insecticides, offer a simple, inexpensive solution (1).

The Bagamoyo Bednet Project is a community-based scheme aiming to develop a sustainable system for the distribution and promotion of insecticide-impregnated bednets among 21 000 people in a rural coastal area located 60 kilometres north of Dar es Salaam, United Republic of Tanzania. Thirteen village committees have proved reasonably effective in achieving sales and distribution but have not always

succeeded in motivating people to reimpregnate their nets with insecticide every six months, an essential procedure if the prevention of malaria is to continue. Posters and meetings have also had a limited impact on this aspect of the scheme.

## Sermons

In order to improve matters a method of communication was needed which would reach large numbers of people and have a high degree of credibility. Since the majority of the residents in the study area were Muslims it was decided to explore the feasibility of reaching people at Friday noon prayers in congregational mosques, when attendance levels were comparatively high. People expect to receive some form of teaching or instruction during this service, and the religious leaders who preside over it are respected and viewed as reliable sources of information. Furthermore, there are many health instructions in the Koran and the Sunna, most of them preventive in nature and suitable as a basis for a health education programme (2).

Each congregational mosque has a sheikh or preacher who leads the prayers, reads from the Koran and delivers short sermons. The sheikh in each of four villages was asked to

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consider whether Friday noon prayers were a suitable forum for promoting the use of bednets and, in particular, their reimpregnation with insecticide every six months. All of the

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sheikhs were familiar with the aims of the project and with insecticide-impregnated mosquito nets, and all accepted the idea. Follow-up contacts were made to deal with any questions they wished to put.

The preachers were then consulted about the language, content and length of the message. A draft sermon, prepared by two of the present authors, was rewritten after meetings with and input from the sheikhs. The final text covered the following matters:

- the effects of malaria on health and productivity;
- the strengths and weaknesses of traditional methods of fighting malaria;
- the need to use insecticide-impregnated bednets;
- the reasons why some people do not bring their nets to be reimpregnated;
- recommendations from the sheikhs on the use of insecticide-impregnated bednets and on the need to reimpregnate them.

One or more of the authors attended the Friday noon prayers in the four villages when malaria and insecticide-impregnated mosquito nets were discussed. Between one and two weeks later, semi-structured interviews were conducted with 39 people who had been present and with five who had not, in order to assess opinion on the services and the impact achieved.

In all four mosques the messages on malaria and mosquito nets were delivered in Swahili as part of the informal sermon at the end of the service. All the main points were covered in each mosque. In two mosques the preachers spoke without the aid of the notes they had been given and reinforced each point with a quotation from the Koran or Hadith. In another mosque the notes were used for reference and the preacher also quoted from the Islamic sources. In the fourth mosque, after a man had read the sermon from a transcript, the sheikh emphasized the importance of reimpregnating bednets with insecticide and cited some relevant verses.

The least effective of the four sermons, judging by the subdued response to it, was that read from a transcript. The impact of the sermons on the congregations seemed to increase with the degree to which health education was linked to the Koran and Hadith. In one village the whole sermon consisted essentially of references to these sources interspersed with information about malaria, and the congregation appeared to be very moved. The preacher stated that the coming of all new medicines, including the insecticide used on the nets, was the work of God. "We are expected to respect the work of God", he said as he encouraged people to bring their nets for reimpregnation.

### **Acceptance**

On the whole this method of conducting health education was acceptable. When asked what they thought of the sermons given during Friday noon prayers, 21 of the 39 interviewees who had been present said they were very good and 12 said they were good. Five of the 39 and two of the five people who had not been present expressed reservations about what had been done. These were all older people, concerned that using the mosque for health education amounted to mixing religion and politics. One elderly woman said that health matters should be discussed in the offices of the ruling party rather than in the mosque. She felt that project staff came to the

mosque to make announcements rather than to praise God. The majority, however, especially the younger people, while agreeing that religion and politics should be kept separate, did not tend to view malaria and mosquito nets as political issues.

Of the people who attended the services, 25 considered that the amount of time spent on health education was appropriate, 11 described it as "long" and three said it was "very long". Most of these people felt that such messages should be a regular part of Friday noon prayers, 20 saying they should be delivered every Friday, 17 opting for twice a month and five considering that once a month would be appropriate.

### **Impact**

The incorporation of information on malaria into Friday noon prayers began when the project had already been conducting health education activities for two years. It would have been surprising, therefore, had many people not come across the subject already. In fact, only five of the 44 interviewees said they were hearing about the issues for the first time. Most of the others had heard about malaria from project staff, on the radio, or at dispensaries. There was already a high degree of awareness of mosquito nets, 40 of the 44 interviewees stating that they were very useful.

Although only a minority of villagers attended Friday noon prayers, a considerable proportion of them disseminated the information they received. Twenty-three of the 44 interviewees talked to family and friends about what they had heard, some as many as ten times.

The method seemed to be most effective in reaching men aged between 30 and 50 years, and ineffective in reaching youth. Fewer women attended than men, and some of them were seated where they could not hear all the messages. Furthermore, women seemed less likely than men to discuss what they had heard with family and friends.

The project achieved 52%–98% regular reimpregnation of bednets except in one village where the figure was only about 25%. Malaria morbidity was measured during 1992 among children aged 6–40 months in seven villages before intervention and during 1993 in three villages where bednets were used and in four villages where they were not used. Children using bednets were slower to become reinfected, had lower levels of parasitaemia and showed marked improvement in anaemia compared with those not using them (3).

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made. Most people agreed that it was reasonable to dedicate between five and ten minutes to the informal sermons on this subject, although some felt this was too long, even though in that amount of time the sermons could not deliver much more information than radio spots. It was also deemed necessary to convey messages by distributing booklets, calendars and posters, holding meetings, and performing plays.

It may be impossible to deliver health education during religious services if they are conducted entirely in Arabic and if much of the congregation knows this only as a liturgical language. Another problem may be that not everyone in a mosque has the same access to the information being given, as in the case of women sitting at the back where they cannot hear the informal sermon. Furthermore, many

women, especially younger ones, do not attend Friday noon prayers.

The method requires time and patience. A preliminary investigation should be made into the style and language of worship, the willingness of the preacher to become involved in health education, and his ability to communicate the information in an acceptable way. The preacher should be approached, convinced of the value of the method, and educated about malaria, and the text to be used should be discussed and rewritten in collaboration with him. If the preacher is an effective communicator, Friday noon prayers may be one of the best means of conducting health education. ■

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## ***The air we breathe – a potential health hazard***

*Every society is paying a price for environmental pollution. Contamination of air, water, and soil by toxic chemicals and radioactivity, along with increased ultraviolet radiation, is damaging human health, running up health care costs. An assessment of urban air quality jointly undertaken by the World Health Organization and the United Nations Environment Programme reports that 625 million people are exposed to unhealthy levels of sulfur dioxide from fossil fuel burning. More than a billion people, a fifth of the planet's population, are exposed to potentially health-damaging levels of air pollutants of all kinds. One study for the United States estimates that air pollution may cost the nation as much as \$ 40 billion annually in health care and lost productivity.*

- *State of the world 1993. A Worldwatch Institute report on progress toward a sustainable society.* New York & London, W.W. Norton & Company, 1993: p. 9.