

# ELIMINATING LF: A PROGRESS REPORT FROM TANZANIA

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Lymphatic filariasis (LF) is endemic throughout the United Republic of Tanzania. The figures for Tanzania mainland show that 34 million people are at risk of infection and it is estimated that 6 million people have debilitating manifestations of the disease. The endemicity varies from being highly endemic along the coast with antigenemia levels of 45–60%, to low endemicity in the areas of Western Tanzania with endemicity of 2–4%, and varying endemicity in the regions in between, i.e. central Tanzania, the southern Highlands and north and northwestern Tanzania (Malecela et al, 2008). The levels of disease in the country are much higher than initially recorded and work is being carried out to calculate more accurate figures.

Tanzania's National Lymphatic Filariasis Elimination Programme (NLFEP) began in 1997 following a World Health Assembly (WHA) resolution which declared that lymphatic filariasis would be eliminated as a public health problem by 2020. This was followed by two major announcements. One announcement was the commitment by GlaxoSmithKline to donate albendazole for as long as it was necessary to eliminate the disease and the second was the extension of the donation of ivermectin (Mectizan®) by Merck to all countries in Africa that had onchocerciasis. Thus, albendazole and ivermectin, which clear microfilariae from the blood of infected individuals,

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were made available for as long as it takes to eliminate the disease. The Tanzania LF programme launched its first mass drug administration (MDA) with ivermectin and albendazole in 2000 when 45,000 people were treated. The programme now covers six regions and

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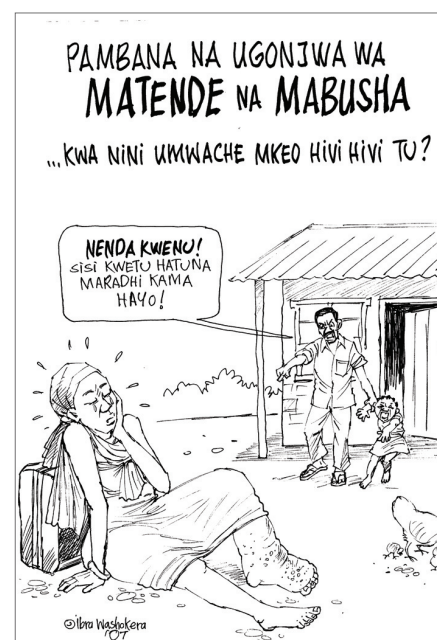
34 districts, and 9.2 million people have been treated in the eight years since its inception.

The Tanzania LF Elimination Programme has a number of strategies. These include MDA, lymphoedema management, hydrocelectomies (surgery for scrotal swellings caused by *Wuchereria bancrofti*) and vector control (the use of bednets and the reduction of mosquito breeding sites). These strategies are summarised in the word *Mwanga* — the Swahili word for light — which has been used to promote the health programme.

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Early studies in Rufiji indicated that LF had a severe detrimental socioeconomic impact on patients, particularly when acute filarial attacks (AFAs) would keep them in bed for up to three days unable to work and, thus, adversely affecting their productivity (Gasarasi et al, 2000). The study also noted that the annual incidence of acute filarial attacks in this area was 33 per 1,000 population, and that individuals with chronic manifestations were more vulnerable to the attacks. This was also noted during the early baseline studies carried out in Mafia in an unpublished report, where, on average, individuals spent 3–4 days in bed due to AFAs (Mwakitalu et al, 2008). For individuals whose income depends on fishing and farming, this has an adverse effect on their livelihood. Rough estimates have indicated that patients whose major occupation



was fishing lose between 5,000 to 20,000 Tsh per day in income, and up to 80,000 Tsh per month due to the disease. This is about 53% of their income.

### The disease alleviation programme

Globally, it is estimated that 120 million people have the debilitating manifestations of the disease (Ottesen et al, 2008). In Tanzania it is estimated that between 5–6 million people have either lymphoedema or elephantiasis and hydrocele, or, in some instances, both. This figure is just an estimate and the programme is in the process of obtaining more accurate numbers and mapping the disease throughout the country.

The disease alleviation programme was launched at the same time as the MDA. During the launch, patients had their legs washed by dignitaries. This helped make their plight known throughout the country. This gesture also helped to deal with the terrible stigma that was associated with the disease.

In Mafia the programme had a well-designed lymphoedema programme, which was managed by a nurse assistant who would move from house to house spreading the simple message to patients to wash, dry and elevate the affected leg. The patients would be shown how to wash their legs with soap and water with a focus on ensuring that they cleaned properly between the toes. Then they would be shown how to dry their legs and finally elevate them. The nurse assistant also ensured that a family member was taught to support the patient, particularly when washing the hard to reach places between the toes. The nurse assistant focused her attention in the Kilindoni area of Mafia, but would also go to surrounding villages to support patients.

As the programme expanded it was difficult to replicate what was a small intense programme run by one nurse assistant, and hence it became important to train village health workers who were responsible for the MDA in lymphoedema management. The first part of the training involved what the village health workers needed to do before, during and after the MDA. The

second part of the training involved disease alleviation training which involved registering all the people with lymphoedema in the village during MDA, as well as those who had hydroceles and were willing to have surgery. The village health workers were then shown how to train patients with lymphoedema to wash, dry and elevate. During the first three years of the programme it received regular generous donations of Lifebuoy soap from Unilever, which were distributed to the patients together with antibacterial creams.

The other important activity of the village health workers was to record when members of their village had acute filarial attacks or *homa za mitoki*. Most of the patients could clearly define *homa za mitoki* as distinct from malaria and other febrile illnesses. In almost all areas it was called various names in different tribal dialects, but the patients were essentially describing the same thing (Mackenzie et al, 2008), i.e. swelling of the inguinal lymph nodes accompanied by fever, chills and skin exfoliation. It was important to note the number of attacks a person would have per month and whether there was a reduction after implementing the programme.

One of the challenges has been that follow up and care could only be given to people who were registered, as these would be the ones who were keen to participate in the 'extra washing', so there was not an accurate picture of how

many patients have lymphoedema and hydrocele. The aim of the programme now is to actively find out how many people have the condition by disease mapping to build a clear understanding of what is needed in each district. This is critical in designing a sustainable lymphoedema management programme.

In an attempt to support people who were unable to access the disease alleviation programme as it was not yet operational in their area, a clinic-based programme was set up at the LF offices in Dar es Salaam. The aim was to have a place where anyone who suffered from the clinical manifestations of the disease could receive care and support. This programme has become an effective way to spread the word as people from all over the country visit. There is also constant communication with the patients that attend the clinic and for those who live nearby, as their progress is tracked regularly. Though observations in the field have indicated that hydroceles are the most common manifestation of LF, most people who attended the clinic between 2001–2003 had either lymphoedema or elephantiasis (Figure 1). It has been noted that overall fewer hydrocele patients attend the disease alleviation programme, although large numbers of patients registered for surgery during the MDA.

### Integration with home-based care for HIV/AIDS

In a number of districts lymphoedema management has been integrated

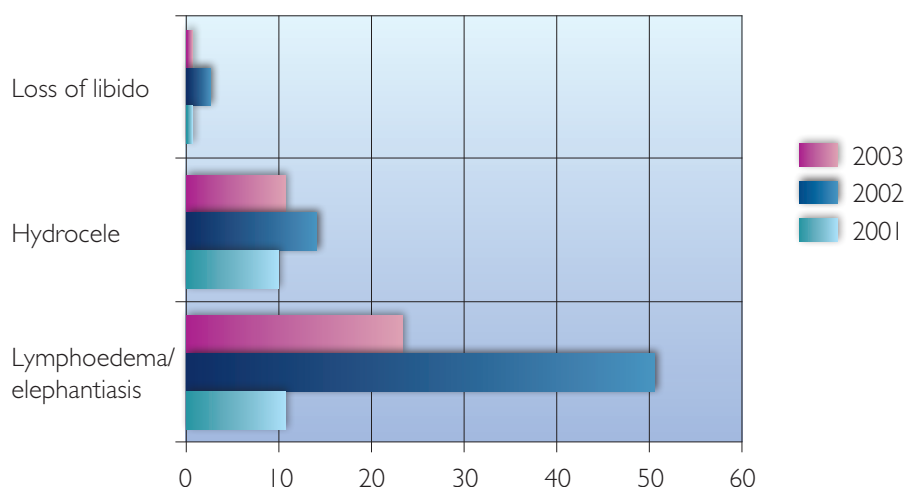


Figure 1: Patients attending the humanitarian clinic 2001–2003.

with home-based care for human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS). In these districts, home-based care workers have been taught how to support patients with HIV/AIDS through a standard simplified curriculum. After the core training on HIV/AIDS, the patients are given training on how to support patients with lymphoedema. This programme has been carried out in seven of the 34 districts currently involved in the programme. It is the aim of the NLFEP to expand the activities to cover all the districts currently covered by the programme.

### Hydrocele surgery: dealing with the numbers

One of the surprising factors that the programme experienced is the number of men registering for hydrocele surgery. Currently, 15,000 men need a hydrocelectomy. This indicates that the current disease estimates may be vastly underestimated, reinforcing the need for disease mapping. In April 2008, the president of the United Republic of Tanzania began a fund to benefit patients with LF, and to begin with this money will be used for men who need surgery. The fund was launched at the 5th Biennial meeting of the Global Alliance to Eliminate Lymphatic Filariasis (GAELF) in Arusha. There has been a total of 8,200 operations since the start of the programme in 2000. The president's LF fund enabled 200 men to be operated on in two weeks in a camp held in the Pangani district. The approach of hydrocelectomies has also been district-based with the aim of strengthening district capacities, while at the same time dealing with the tremendous backlog that exists. The village health workers were also involved in patient follow-up after surgery, which has allowed the patients' conditions to be tracked and the hospital notified of any complications. There were only two post-surgical complications following the 200 surgeries carried out (Makange and Maggid, 2008).

### Impact of MDA on disease

One of the most interesting findings in our work with patients with lymphoedema is the fact that they started reporting improvements in symptoms after treatment with

ivermectin and albendazole. Follow-up studies on cohorts in Mkuranga and Rufiji have shown that drugs are effective in reducing filarial fevers (Mackenzie et al, 2008) and, in some cases, there was a reduction in limb size which could be attributed to the drugs. In the early days of the programme this was considered controversial, as only leg washing was considered to have an impact on the number of AFAs and on the reduction of leg volume.

## A lymphoedema management programme is not a short-term activity and requires input not only into leg washing, but also psychosocial support, rehabilitation and in some instances financial support to supplement incomes.

### Lymphoedema management: challenges and opportunities

The lymphoedema management programme has clearly defined strategies, but to work well it needs to be patient-centered, allowing patients to support themselves and each other. In the early days the biggest problem was the stigma attached to the disease and the psychological trauma that patients faced as a result. The main problem now seems to be the ability to upscale the programme to reach the patients that need support. To address this issue, the disease alleviation programme has been made an integral part of the programme, although a substantial amount of funding still goes to the MDA. The president's fund has helped with expansion, especially as the programme has been plagued by inadequate funding. This fund is to be used to upscale both disease alleviation and MDA. Visible improvements in patients are a major tool for advocacy (Mackenzie et al, 2008), and it has been found that patients are currently the best advocates for the LF programme.

One of the other main challenges is sustainability. A lymphoedema management programme is not a short-term activity and requires input

not only into leg washing, but also psychosocial support, rehabilitation and in some instances financial support to supplement incomes. It is thus extremely important that patients form support groups or hope clubs, as they are called in Brazil (Dreyer and Addiss, 2000) to keep each other motivated. There is also a need for our programme to forge links with groups that provide specialised support including psychological management, rehabilitation, foot care and special shoes and income generation. However, the greatest challenge still remains: the sheer number of people who need help. At this stage, disease mapping needs to be prioritised so that sustainable plans can be made and the work towards elimination of lymphatic filariasis can continue. JL

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