

# Tuberculosis treatment in complex emergencies: South Sudan



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Ongoing fighting during Sudan's protracted civil war has generated untold suffering and a humanitarian and health crisis. 2 million Sudanese have died and 4.5 million have been displaced. Animosity between the ethnically and culturally African people of the south, struggling for

self-determination against political and religious domination by the Islamic and Arab north, has resulted in fighting between militia groups, rebel, and government forces. Violent conflicts between tribal groups, political factions, and local warlords further compound the chaos throughout southern Sudan.

Peace talks between rival factions, and a ceasefire in October, 2002, give hope for a resolution. Yet civilian populations continue to struggle against widespread poverty, disease, and the loss of homes and livelihoods. In such an insecure context, it is little wonder that health services have ceased to function. Health-care facilities are few, isolated, very basic, and almost totally dependent on international agencies. Many local health-care staff have fled. With infrastructure and roads being basic or non-existent, most emergency relief must be delivered by air. Agencies that do remain struggle to address health consequences of this war: acute and chronic malnutrition, epidemics of infectious diseases, and lack of access to medical care.

In 1994, Médecins Sans Frontières (MSF) began providing tuberculosis treatment for the local seminomadic agropastoral tribe—the Nuer—in Upper Nile. The programme treated almost 2000 patients before being shut down as a result of increased insecurity around the government's oil development project. In 2001, treatment resumed in Lankien, Upper Nile; subsequently, two more clinics have opened in other regions. The programmes each admit about 200–250 patients every year.

Recurrent clan fighting creates difficulties in the Lankien area—six chiefs share jurisdiction, there is a high level of weapon ownership, and the occurrence of food drops can complicate security. If peace talks are successful, this clan-based conflict may well be resolved soon. Delivery of tuberculosis treatment, which patients should take for at least 6 months, is difficult in such instability. In this context, provision of long-term treatment, with an emphasis on



*A 10-year-old boy with spinal tuberculosis; his father built him a traditional hut in the hospital compound to be used for the duration of his treatment*

MSF/Tom Ellman

continuous treatment to prevent drug resistance, needs careful consideration to ensure we are not doing more harm than good.

Indeed, in the past, concern about the risk of creating drug resistance has discouraged many agencies from addressing tuberculosis in emergency settings. Furthermore, tuberculosis requires a longer commitment to treatment than do most acute medical conditions. MSF feels, however, that with sufficient resources, medical expertise, and commitment, treatment in such a setting is feasible.

The programme's main concern is to treat as many patients as possible, while keeping the risk of drug resistance to a minimum. An adapted version of the Manyatta protocol is used, with an extended 4 months of directly observed treatment with four drugs (including rifampicin) in the clinic, followed by 3 months of isoniazid and ethambutol unsupervised away from the clinic, all in the form of fixed-dose combination tablets. A longer period of supervision would complicate the delivery of treatment. Previous studies of the 4-month regimens show an 85% cure rate within the 4-month component of the treatment alone, without any substantial risk of rifampicin resistance. Because of the unreliability of air transport in the rainy season, a 2-month reserve of drugs and materials is maintained in a locked cupboard at the programme site. Patient compliance is boosted by provision of regular food packages and through strong community support.

Patients, patients' families, and Sudanese medical staff are sometimes afraid to travel to Lankien if they have to pass through the territory of another clan. Occasional murders and revenge attacks near and in the area have compounded this problem. Health care is delivered by a handful of Sudanese staff with little formal education. Rigorous training and motivation efforts are, therefore, crucial to improve the skills and promote independence of staff.

MSF expatriate staff have been evacuated from the Lankien project no fewer than seven times in 2.5 years; two evacuations were for around 2–4 weeks. Thorough security plans are needed, with the focus on ensuring the continuous treatment of patients enrolled in the programme, while keeping the possibility of uncontrolled distribution of rifampicin to a minimum. Protocols are based on three scenarios: the evacuation of expatriate staff only; evacuation, with warning, of expatriate staff and the entire community; and sudden evacuation, without warning, of everyone to the surrounding bush. Plans have been made for food distribution, staff incentives, and making drug

supplies and confidential patient files secure, with a focus on keeping staff and patients together.

In the event of a complete evacuation of MSF and the local population, each patient is given a "runaway bag", containing a 1-month supply of isoniazid and ethambutol combination tablets. Prearranged locations are established for staff and patients to meet 4 weeks after the evacuation. Field staff felt strongly that such a provision boosts the morale of patients wanting to complete their treatment. Field teams have had to balance the interests of patients under treatment with the risks of causing drug (particularly rifampicin) resistance by allowing the drugs to circulate unsupervised in the community.

Relationships between patients and staff are extremely important. Doctors go to great efforts to know their patients and their social backgrounds, enabling them to address possible reasons for defaulting before they arise. Traditional authorities have been helpful in emphasising the need for compliance to treatment; extensive consultation with the community was deemed essential, as was an understanding of the cultural, economic, and political situation in the region.

Because there are almost no primary health-care structures to refer patients to the programme, limited opportunities for active case finding have hindered control of tuberculosis. Thus, reducing transmission of tuberculosis may not be an achievable goal in unstable environments. However, the humanitarian benefit of tuberculosis treatment provides sufficient justification for a programme, even if it has little effect on transmission rates.

To date, there have been very few defaulters (in Lankien, 1% of patients defaulted in 2001, 0% in 2002). This success is largely attributable to the very high level of community demand for the programme, strong political support, and the firm commitment of most Nuer patients. Encouragingly, during our evacuations to date, Sudanese staff members continued working, we had no defaulters, and none of our supplies were looted. Yet our success so far should not give the impression that these are easy projects.

Treating tuberculosis in complex emergencies is an under-recognised priority. Although MSF's programme is small, it offers treatment to people who have previously been denied access to health care. Clearly, new ideas and strategies, based on core principles of tuberculosis treatment, need to be adapted to ensure that people living in unique and difficult settings, such as Sudan, have access to this life-saving care.