

# AIDS and tuberculosis in medical inpatients in Malawi

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## Introduction

Malawi is gripped by a twin epidemic of AIDS and tuberculosis (TB). In 1999, the country had an estimated 800,000 people living with HIV/AIDS<sup>1</sup>, and 24,396 registered cases of TB (source = National Tuberculosis Programme). Health workers have little hesitation in considering TB as a possible diagnosis, but the same cannot be said of AIDS. AIDS is still a highly stigmatised disease, and there seems to be reluctance by health workers to label patients with this diagnosis or refer patients for voluntary counselling and HIV testing (VCT). We carried out a country-wide cross-sectional survey to document i) the principal working diagnoses in medical in-patients, ii) the frequency with which TB was considered in the differential diagnosis and investigated by sputum smear examination and iii) how often AIDS or a synonym of AIDS was written in the case file or a referral made for VCT.

## Methods

All 44 district, mission and central hospitals in Malawi where TB registration and treatment takes place were visited between April and June 2001. In each hospital, all adult non-fee paying medical in-patients aged 15 years and above who were in general or medical wards were seen. Case notes and treatment cards were inspected, and data related to the study objectives were collected into structured proformas. Patients who were already registered and receiving treatment for TB were not included. Data were analyzed using EPI-INFO 6.04 software. Proportions were compared using X<sup>2</sup> test, differences at the 5% level being regarded as significant.

## Results

There were 1536 patients, 695 men and 841 women, whose mean age (SD) was 37 (14) years. The top 10 working diagnoses in men, women, and all patients, are shown in the Table.

TB was the most common principal working diagnosis, while AIDS was fourth. In 614 (40%) patients, TB was considered either as the principal diagnosis or in the differential diagnosis, and in 572 (37%) patients sputum specimens had been requested for AFB examination: there were no differences between men and women.

In 223 (15%) patients, AIDS or one of its synonyms was mentioned in the case files (this included patients with a principal diagnosis of AIDS), and in 138 (9%) VCT had been requested: there were no differences between men and women. Fifty six patients had a principal working diagnosis of Kaposi's Sarcoma, chronic enteropathy, cryptococcal meningitis, Pneumocystis carinii pneumonia, or oesophageal candidiasis: AIDS was mentioned in 24 (43%) and VCT requested in 20 (36%) of these patients. Three hundred and seven patients had a principal working diagnosis of TB: AIDS was mentioned in 43 (14%) and VCT requested in 26 (9%). AIDS was mentioned in the case files more frequently in mission (21%) and central (17%) hospitals compared with district (11%) hospitals [ $p < 0.05$ ]. Referrals for VCT were low in each type of hospital (mission - 11%; central - 11%; and district - 8%).

## Discussion

This cross-sectional study highlights the enormous burden imposed on hospitals by the TB epidemic. Many patients are considered for possible TB, and in over one-third sputum specimens are being requested for laboratory AFB examination. Seventy seven percent of TB patients in Malawi are HIV-seropositive<sup>2</sup>. In Queen Elizabeth Central Hospital, over 70% of all medical in-patients are HIV-seropositive (Zijlstra, personal communication), in keeping with findings from other African countries<sup>3</sup>. Despite this, AIDS is infrequently written in case files, even when diseases which are almost always associated with HIV, such as Kaposi's Sarcoma or cryptococcal meningitis, are diagnosed. There are few referrals for VCT, even in patients with suspected TB or a classical HIV-related disease.

Stigma and the absence of anything to offer a patient labeled with a diagnosis of AIDS are the likely explanations for not mentioning the diagnosis of AIDS in case notes or referring patients for VCT. However, changes have to take place if Malawi is start winning the battle against HIV / AIDS. Modeling studies in East Africa have demonstrated the cost-effectiveness

Table: Top ten working diagnoses in medical inpatients in Malawi hospitals

Male			Female			Total		
Diagnosis	No.	(%)	Diagnosis	No.	(%)	Diagnosis	No.	(%)
Tuberculosis*	127	(18.3)	Tuberculosis**	180	(21.4)	Tuberculosis***	307	(20.0)
Pneumonia	116	(16.7)	Pneumonia	168	(20.0)	Pneumonia	284	(18.5)
Malaria	72	(10.4)	Malaria	109	(13.0)	Malaria	181	(11.8)
AIDS	39	(5.6)	AIDS	38	(4.5)	AIDS	77	(5.0)
Anaemia	25	(3.6)	Anaemia	38	(4.5)	Anaemia	63	(4.1)
Heart failure	25	(3.6)	Gastro-enteritis	32	(3.8)	Heart failure	50	(3.3)
Meningitis	24	(3.5)	PID	25	(3.0)	Gastro-enteritis	49	(3.2)
Stroke	19	(2.7)	Heart failure	25	(3.0)	Meningitis	45	(2.9)
Ascites	19	(2.7)	Meningitis	21	(2.5)	Ascites	40	(2.6)
Bacteraemia	17	(2.4)	Ascites	21	(2.5)	Bacteraemia	37	(2.4)
<b>Total</b>	<b>483</b>	<b>(69.5)</b>		<b>657</b>	<b>(78.2)</b>		<b>1133</b>	<b>(73.8)</b>
* No. PTB 113 No. EPTB 14			** No. PTB 164 No. EPTB 16			*** No. PTB 277 No. EPTB 30		
Legend: PID = Pelvic Inflammatory Disease PTB = Pulmonary TB EPTB = Extrapulmonary TB								

of VCT in averting further HIV infections<sup>4</sup>. Cotrimoxazole prophylaxis, recommended by UNAIDS as part of a minimum package of care for people living with AIDS in Africa<sup>5</sup>, should be considered for HIV-seropositive patients, and this may provide individual benefit. Antiretroviral therapy may become accessible to the population in the future. Health workers must take a lead in this difficult area, and can begin by "breaking the silence".

#### Acknowledgements

We thank the Department for International Development (DFID), UK, the Norwegian Agency for Development Cooperation (NORAD) and the Royal Dutch Tuberculosis Association (KNCV) for financial support as part of their aid contribution to Operational Research of the Malawi National Tuberculosis Control Programme. The study received the approval of the National Health Science Research Committee.

This article has previously been published in *Tropical Doctor* in 2002.

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# The impact of HIV infection on childhood pneumonia: comparison between developed and developing regions

Stephen M Graham

## Summary

**Respiratory disease is the commonest cause of morbidity and mortality in HIV-infected children. While the pattern of HIV-related pneumonia in African adults is well documented and is recognised as quite different from that which occurs among HIV-infected adults in high-income regions, less is known of the situation in children. Most children are infected by mother-to-child transmission and presentation of HIV-related pneumonia is often in infancy or early childhood, an age group in which confirmation of the cause of pneumonia is difficult. However, aetiological data are important. Poor response of the infant with severe pneumonia to standard antibiotic (such as chloramphenicol) or of the older child with chronic pneumonia to anti-tuberculosis treatment are two very common clinical dilemmas that many Malawian health workers would recognise. This review aims to present the available data relevant to Malawi, contrast with experience from the developed world and to describe common HIV-related pneumonias such as PCP and LIP. Unlike for adults, the pattern of HIV-related pneumonia in Malawian children may not be so different in cause from that described for children in developed countries prior to the use of PCP prophylaxis and anti-retroviral therapies. The most important contrast is the higher prevalence and poorer outcome.**

## Introduction

Respiratory disease is a major cause of morbidity and mortality in HIV-infected children in developed and developing countries.<sup>1-3</sup> Prior to the HIV epidemic, there were already important differences between the regions that still exist. In developing countries, acute childhood pneumonia is more often due to bacteria, most commonly *Streptococcus pneumoniae* and *Haemophilus influenzae*, and more likely to be fatal.<sup>4</sup> The prevalence is much higher of important risk factors for pneumonia morbidity and mortality such as fetal and early childhood malnutrition. In addition, the community prevalence of smear-positive pulmonary tuberculosis (PTB) has increased dramatically in HIV endemic regions and maternal illness and death is common. It is therefore a difficult environment for an HIV-infected child to negotiate and perhaps not surprising that the majority of HIV-infected infants from a resource-poor region such as tropical Africa have died by 3 years of age.<sup>5,6</sup> Only about 25% survive up to 5 years compared to over 80% in USA or western Europe.<sup>1</sup> Thus the majority of cases of HIV-related respiratory disease present in infancy and early childhood. However, because childhood HIV infection is so common in some countries, the presentation of HIV-infected school-aged children often with chronic respiratory disease is not unusual.

Causes of pneumonia in HIV-infected children living in high-income countries such as USA or UK are well documented.<sup>3,7,8</sup> It may not be correct to assume that the pattern of disease is similar in HIV-infected children in resource-poor Africa where it is estimated that over 90% of childhood HIV infection now