

**MAKERERE**



**UNIVERSITY**

**PREVALENCE AND FACTORS ASSOCIATED WITH OCULAR  
MANIFESTATIONS OF TUBERCULOSIS AMONG PATIENTS AT THE  
NATIONAL TUBERCULOSIS REFERRAL CENTRE, MULAGO  
HOSPITAL**

**BY**

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## **ABSTRACT**

**Background:** TB remains a major public health problem in Uganda. The situation is compounded by the high rate of occurrence of HIV co-infection in Uganda. Although TB is known to cause ocular manifestations and some anti-TB drugs also cause ocular side effects, the magnitude of the problem and the factors responsible are not known making it difficult to institute control measures.

**Objective:** To determine the prevalence and factors associated with ocular manifestations of Tuberculosis among patients attending the National Tuberculosis Centre Mulago Hospital, Kampala Uganda

**Methods:** Using a cross sectional study design patients attending the National Tuberculosis Referral Centre with a diagnosis of TB were selected by systematic sampling and underwent evaluation including detailed history, blood clinical profile, HIV serology testing, CD4 count, best corrected visual acuity (LOGMAR), slit lamp bio-microscopy (Haagstreit), indirect funduscopy (Keeler), colour vision test (Ishihara), contrast sensitivity (Pelli Robson) and Visual Field test (Oculus perimetry). Data was collected using a pretested structured questionnaire, entered using Epidata and analysed using STATA11. Significance of associations between ocular manifestations of TB and the independent variables were tested using odds ratios, p-values and 95% confidence intervals. Multivariate analysis was done using logistic regression.

**Results:** A total of 251 TB patients were evaluated between March and April 2013. The median age was 29 years (IQR=13), with 56.2% (141) males and 47.8% (120) HIV positive. The prevalence of ocular manifestation of TB was 10% (95% CI 6.2-13.6). Ocular manifestations of TB were found in 28 eyes of 25 patients: 7 patients had cataracts (31.2%), 8 had optic

neuritis(25%), 5 had uveitis (15.6%) 2 had lupus vulgaris(6.3%), 2 had old choroiditis (6.3%), 2 with phlyctenule (6.3%) while papilloedema, retinal vasculitis and conjunctival granuloma accounted for one case each(9.3%). Age was the only significant factor associated with ocular manifestations of TB (OR=0.21 CI 0.05-0.95). Optic neuropathy among patients on Ethambutol was prevalent in 41.4% of the 251 patients.

**Conclusion:** The prevalence of ocular manifestations of TB seen among the TB patients is high and with potential visual impairing morbidity. The ocular manifestations of TB had no significant relationship with HIV, Diabetes Melitus and immunosuppression. Patients aged below 50years were about five times more likely to develop ocular manifestations of TB than their older counterparts. Ocular assessment and monitoring before and during treatment respectively is essential to prevent irreversible damage. Further bigger studies are needed to explore the pattern of ocular manifestations of TB before treatment and establish factors associated with ethambutol related optic neuropathy.