

Title: The prevalence of concurrent pulmonary and extrapulmonary tuberculosis in Uganda: a retrospective study.

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Concurrent pulmonary tuberculosis (PTB) and extrapulmonary tuberculosis (EPTB) is associated with poor treatment outcomes yet its epidemiology in Uganda is unknown. The purpose of this study was to determine the prevalence, associated factors, treatment outcomes of concurrent PTB and EPTB among patients at a national tuberculosis (TB) treatment center located at Mulago National Referral Hospital in Kampala, Uganda.

We conducted a retrospective review of charts for people with TB who were enrolled in care between January 2015 and December 2019. Eligible charts were for people with pulmonary bacteriologically confirmed TB enrolled into care during the study period. Concurrent PTB and EPTB was defined as PTB and bacteriological, histopathological, and/or radiological features of TB at another noncontiguous sites.

Overall, 400 patient charts were eligible, of whom 240 (60.0%) were aged 15–34years and 205 (51.3%) were female. The prevalence of concurrent PTB and EPTB was 8.5% (34/400) [95% confidence interval (CI): 6.0–11.7%]. People with concurrent PTB and EPTB were more likely to have at least one comorbidity (82.4% versus 37.2%, $p<0.001$),with HIV the most frequent. Furthermore, people with concurrent PTB and EPTB were more likely to have empyema (15% versus 2.6%, $p=0.028$) but less likely to have bronchopneumonic opacification (0.0% versus 15.3%, $p=0.043$) on chest x-ray imaging. People with concurrent PTB and EPTB had higher mortality (26.5% versus 6.37%) and a lower cure rate (41.2% versus 64.8%), $p=0.002$.

Our findings highlight the need for early detection of TB before dissemination

particularly among people who use alcohol and people with HIV.

Biography

Joy Mirembe born and raised in Uganda, has completed her Bachelors of Medicine and Surgery from Makerere University. She is currently finishing her medical internship from Mulago National Referral Hospital and is very passionate about emergency medicine due to its urgency yet scarcity internationally especially in Low and Middle income Countries . She is an enthusiastic young researcher and has so far published over 3 papers in reputed journals and more are in the pipeline as life unravels before her. She is highly motivated and driven by teamwork, passion for change and mentorship from people of all walks of lives.

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References

1. Dye C, Scheele S, Dolin P, et al. Global burden of tuberculosis: estimated incidence, prevalence, and mortality by country. JAMA 1999; 282: 677–686.
2. Global tuberculosis report 2021, https://www.who.
int/publications-detail-redirect/9789240037021 (accessed 15 April 2022).
3. National Tuberculosis and Leprosy Division July 2017 – June 2018 report, December 2018. Ministry of Health, Government of Uganda, https://www.
health.go.ug/cause/national-tuberculosis-andleprosy-division-july-2017-june-2018-reportdecember-2018/ (accessed 25 February 2021).
4. World Health Organization (WHO). WHO global lists of high burden countries for tuberculosis (TB), TB/HIV and multidrug/rifampicin-resistant TB (MDR/RR-TB), 2021–2025: background document. Geneva: WHO, 2021.
5. Global tuberculosis report, https:// apps.who.int/iris/bitstream/han
dle/10665/336069/9789240013131-eng.pdf (accessed 25 February 2021).
6. Banta JE, Ani C, Bvute KM, et al. Pulmonary vs. extra-pulmonary tuberculosis hospitalizations in the US [1998–2014]. J Infect Public Health 2020; 13: 131–139.
7. Kang W, Yu J, Du J, et al. The epidemiology of extrapulmonary tuberculosis in China: a largescale multi-center observational study. PLoS ONE 2020; 15: e0237753.
8. Kim JH, Kim ES, Jun KI, et al. Delayed diagnosis of extrapulmonary tuberculosis presenting as fever of unknown origin in an intermediateburden country. BMC Infect Dis 2018; 18: 1–8.
9. Jipa R, Cernat R, Dumitru I, et al. Tuberculosis in people living with human immunodeficiency virus might be overlooked. Romanian J Leg Med 2019; 27: 318–324.
10. Gelaw Y, Getaneh Z and Melku M. Anemia as a risk factor for tuberculosis: a systematic review and meta-analysis. Environ Health Prev Med 2021; 26: 1–15.
11. Clinician-handbook_v3.0_Sept20179.pdf, https:// www.ntrl.or.ug/wp-content/uploads/2017/09/Clinician-Handbook_v3.0_Sept20179.pdf (accessed 15 April 2022).
12. Sullivan KM, Dean A and Soe MM. On academics: OpenEpi. Google Scholar, https://
scholar.google.com/scholar?hl=en&as_sdt=0%2 C5&q=Sullivan+KM%2C+Dean+A%2C+So

e+MM.+On+academics%3A+OpenEpi%3A+ a+web-based+epidemiologic+and+statistical+ calculator+for+public+health.+Public+Health +Rep.+2009%3B124%283%29%3A471%E2%8 0%934.&btnG= (accessed 7 March 2021).
13. WHO Definitions and reporting framework for tuberculosis, https://www.who.int/tb/publications/ definitions/en/ (accessed 7 March 2021).
14. Institute SAS. Base SAS 9.4 procedures guide. Cary: SAS Institute, 2015.
15. Wang JY, Hsueh PR, Wang SK, et al. Disseminated tuberculosis: a 10-year experience in a medical center. Medicine 2007; 86: 39–46.
16. Donald PR, Marais BJ and Barry CE. Age and the epidemiology and pathogenesis of tuberculosis. Lancet 2010; 375: 1852–1854.
17. Gaifer. Epidemiology of extrapulmonary and disseminated tuberculosis in a tertiary care center in Oman, https://www.ijmyco.org/article. asp?issn=2212-5531;year=2017;volume=6;issue= E Kyagulanyi, J Mirembe et al. journals.sagepub.com/home/tai 11 2;spage=162;epage=166;aulast=Gaifer (accessed 13 February 2021).
18. Silva E, Pacheco C, Oliveira O, et al. Risk factors for disseminated tuberculosis. Eur Res pir J. 2014; 44: 1448, https://erj.ersjournals.com/content/44/ Suppl_58/P1448 (accessed 13 February 2021).
19. Khan FY. Review of literature on disseminated tuberculosis with emphasis on the focused diagnostic workup. J Family Community Med 2019; 26: 83–91.
20. Leeds IL, Magee MJ, Kurbatova EV, et al. Site of extrapulmonary tuberculosis is associated with HIV infection. Clin Infect Dis 2012; 55: 75–81.
21. Ohene SA, Bakker MI, Ojo J, et al. Extra-pulmonary tuberculosis: a retrospective study of patients in Accra, Ghana. PLoS ONE 2019; 14: e0209650.
22. Meira L, Chaves C, Araújo D, et al. Predictors and outcomes of disseminated tuberculosis in an intermediate burden setting. Pulmonology 2019; 25: 320–327.
23. Walker NF, Meintjes G and Wilkinson RJ. HIV-1 and the immune response to TB. Future Virol 2013; 8: 57–80.
24. Crump JA, Ramadhani HO, Morrissey AB, et al. Bacteremic disseminated tuberculosis in subSaharan Africa: a prospective cohort study. Clin Infect Dis 2012; 55: 242–250. 25. Lee JY. Diagnosis and treatment of extrapulmonary tuberculosis. Tuberc Respir Dis 2015; 78: 47.
26. Mason CM, Dobard E, Zhang P, et al. Alcohol exacerbates murine pulmonary tuberculosis. Infect Immun 2004; 72: 2556–2563