# Assessment of Tuberculosis Risk Factors and Infection Control Practices in Health Facilities within Abuja Municipal Area Council

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## ABSTRACT

Tuberculosis remains a major public health challenge in Nigeria, and health facilities represent important environments where transmission is more likely, particularly in the face of inadequate infection prevention and control. This paper presents an assessment of TB infection control practices and facility-based risk factors that influence TB transmission among health facilities in AMAC, Abuja. Assessment included critical components of TB-IPC: ventilation, overcrowding, availability of PPE, and staff training. A cross-sectional descriptive design was used in 28 health facilities across AMAC, of which 17 were primary facilities, 9 were secondary facilities, and 2 were tertiary. Information was collected using a structured checklist. Data were analysed using descriptive statistics, chi-square tests, and correlation analysis. ANOVA was used to test various hypotheses at the 95% confidence level, where $p < 0.05$. Results indicated that 67.9% of the facilities had a written TB-IPC plan, 64.3% had provided staff training on TB-IPC, and 42.9% reported having N95 respirators available. All the facilities had designated sputum collection areas and basic cross-ventilation, while only 28.6% had powered ventilation systems or UVGI. By Chi-square test, there was a significant association of TB transmission risk with facility level, $p = 0.001$; overcrowding, $p = 0.001$; availability of a written TB-IPC plan, $p = 0.006$; staff training, $p = 0.010$; N95 respirator availability, $p = 0.001$; and use of PPE, $p = 0.001$. The same was not observed in the case of adequate ventilation, where p was 0.413. There was a strong negative correlation between the risk of TB transmission and the overall TB-IPC score, $r = -0.7774$, $p = 0.001$, meaning that good IPC practices greatly reduce the risks of transmission. By ANOVA, there was a significant difference in TB-IPC scores between primary and secondary facilities, $p < 0.001$, and between primary and tertiary facilities, $p < 0.001$. Commonly reported challenges included low patient trust in primary health centres, congestion, staffing shortages, inadequate PPE supplies, and the burden of co-infections. Overall, the study comes to a conclusion that in AMAC health facilities, TB transmission risk is significantly influenced by IPC measures: consistent use of PPE, regular staff training, and written TB-IPC plan availability. Primary health facilities were found to present the highest risk of transmission because of patient overload and scarcity of resources. Strengthening TB-IPC implementation, that is, continuous training for staff, ensuring reliable PPE supply, improving ventilation systems, and enhancing facility-level TB-IPC planning, is needed for the reduction of TB transmission within health facilities in AMAC.



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