

Navigating Drug-Resistant Tuberculosis in Conflict Zones: The Double-Edged Role of Informal Healthcare Systems

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Abstract:

Tuberculosis (TB), caused by *Mycobacterium tuberculosis*, remains one of the deadliest infectious diseases globally, with heightened challenges in conflict-affected regions. Armed conflict precipitates the collapse of formal healthcare infrastructures, compelling displaced populations to rely on informal healthcare networks. While these systems provide critical diagnostic and treatment services under extreme conditions, they are plagued by diagnostic inaccuracies, inconsistent treatment protocols, and fragmented public health mechanisms, which collectively exacerbate the emergence and spread of drug-resistant tuberculosis (DR-TB). Genomic studies have linked resistance-associated mutations to suboptimal treatment practices common in these settings. This creates a paradox wherein informal care is both a lifesaving necessity and a driver of resistance amplification. The ethical dilemmas faced by healthcare providers necessitate pragmatic yet imperfect treatment strategies. This paper advocates for multi-tiered interventions including emergency short-course regimens, regional pharmaceutical stockpiles, and technical oversight of informal healthcare systems to integrate humanitarian imperatives with public health standards. Such coordinated efforts are essential to curb DR-TB transmission in conflict zones and to rebuild sustainable TB control frameworks.

Keywords:

Tuberculosis; Conflict Zones medicine; Informal Healthcare; Multi-tiered interventions.