

**Opinion**

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The Unyielding Shadow of XDR Enteric Fever in Pakistan: A Consultant's Perspective from the Bedside

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Introduction

The landscape of infectious diseases in Pakistan changed permanently in late 2016 when the world's first large-scale outbreak of Extensively Drug-Resistant (XDR) *Salmonella enterica* serovar Typhi tore through Sindh. Nearly a decade later, what began as an acute crisis has quietly transformed into a deeply entrenched, everyday reality across our country. While early public health alerts rightfully focused on saving children, the burden borne by adults has escalated silently in the background. As an infectious diseases consultant walking adult wards every day, I watch our therapeutic options shrink to a terrifyingly thin line. The XDR strain—impervious to first-line agents, fluoroquinolones, and third-generation cephalosporins—has completely dismantled our empirical handbooks. Managing enteric fever is no longer a routine primary care intervention; it has become a high-stakes clinical tightrope walk.

The Bedside Reality: Delays, Complications and Desperation

In adult medicine, XDR typhoid presents a uniquely frustrating challenge. Unlike parents who quickly seek medical care for a sick child, adults usually try to push through the illness. They often spend one to two weeks self-medicating with leftover ciprofloxacin or over-the-counter cefixime before they ever see a doctor. By the time they arrive at our clinics, they are profoundly weak, and the bacteria has had a massive head start.

This diagnostic delay changes the entire trajectory of the disease. In our adult cohorts, we are no longer just treating a simple fever. We are regularly managing severe, life-threatening complications that should belong to a bygone medical era:

- a) Hematological & Hepatic Crises: Patients frequently present with profound anemia and severe reactive

thrombocytopenia, leaving them highly vulnerable to bleeding. Concurrently, typhoid hepatitis with highly elevated transaminases complicates our early treatment choices.

- b) Structural Disasters: Gastrointestinal bleeding, acute kidney injury (AKI), and sudden, catastrophic intestinal perforations are active realities on our wards, often requiring emergency surgery on highly unstable patients.

Because working adults routinely eat on the go and rely on contaminated municipal water during their daily commutes, they are trapped in a continuous loop of environmental reinfection [1-7].

A Fragile Therapeutic Duopoly

Right now, we are surviving on a fragile duopoly: oral Azithromycin for outpatients and intravenous Carbapenems (like meropenem) for severe, hospitalized cases. But standing at the bedside, it is impossible not to feel the ticking clock. We are already documenting sporadic isolates with rising Minimum Inhibitory Concentrations (MICs) or outright resistance to azithromycin. A pan-drug resistant *S. Typhi* is no longer a theoretical doomsday scenario; it is a knock on our laboratory doors. Furthermore, the economic impact on families is devastating. When an adult breadwinner is hospitalized for a 10-to-14-day course of IV carbapenems, the financial blow is often permanent. Families must pay out-of-pocket for these expensive medications, forcing many to sell assets or take on predatory debt just to buy the next day's vials.

Turning the Tide: Action Beyond the Prescription Pad

We cannot medicate our way out of a crisis caused by failing infrastructure. If we want to save our adult workforce, we must look beyond the hospital walls:

a) **Enforce Real Antibiotic Governance:** We must halt the unregulated, over-the-counter sale of antibiotics. General practitioners need continuous education to stop handing out empirical oral cephalosporins instantly and instead shift toward early blood culture collection.

b) **Subsidized Diagnostics:** Expecting a daily-wage earner to pay for a private blood culture test is completely unrealistic. Subsidizing and decentralizing culture facilities across semi-urban areas is the only way to catch infections early and prevent late-stage complications.

c) **Address the Adult Vaccine Void:** Pakistan made history by introducing the Typhoid Conjugate Vaccine (TCV) into its routine pediatric immunization program. However, this leaves our entire adult population entirely unprotected. We must advocate for targeted vaccination campaigns for high-risk adult groups, including food handlers, healthcare workers, and those living in dense XDR hotspots.

Conclusion

The XDR enteric fever epidemic in Pakistan is a stark warning to global health security. It shows us exactly what happens when municipal infrastructure and regulatory oversight lag behind bacterial evolution. In our adult wards, the stakes are measured in lost lives, broken family savings, and severe medical complications. As infectious disease specialists, our roles must expand beyond writing prescriptions. We must actively fight for clean water, strict

antibiotic governance, and expanded vaccine equity. If we do not act decisively now, we are heading directly into a post-antibiotic era where a simple glass of water could carry an untreatable death sentence.

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