

Fungal Biodiversity

Fungi are **ubiquitous** and thrive in diverse environments, with an estimated biodiversity ranging from **2–11 million** species¹



While most fungi are harmless and contribute to a healthy ecosystem, some can cause **serious diseases** in humans, animals, and plants^{1,2}. The **overuse** of **antifungals** to fight infections contributes to antifungal resistance (AFR)^{3,5}

The estimated incidence of fungal infections is substantially high, with over 6.5 million invasive fungal infections and 3.8 million related deaths each year⁴

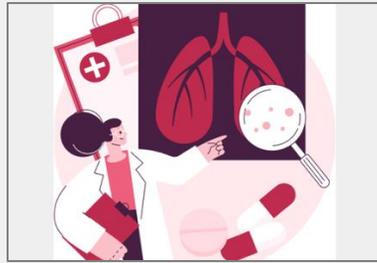
AFR Poses a Global Health Challenge

Increasing Threat of AFR



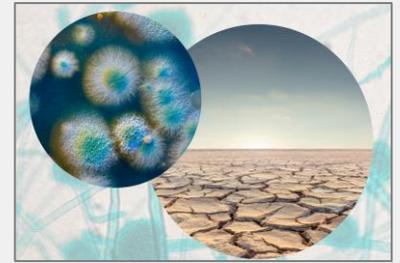
Both known and new fungal pathogens are developing increasing resistance to **antifungal treatments** and **agricultural fungicides**, leading to AFR⁵

Escalating Health Burden



When disease-causing environmental fungi develop resistance, their spores become a direct threat, leading to severe, **invasive fungal diseases**⁵

Climate Crisis



Climate change enables fungi to thrive at higher temperatures, accelerating the **emergence** and **spread** of fungal pathogens into new habitats, driving **fungal adaptation** and AFR^{3,6}

Coordinated One Health Approach Mitigates AFR

Interconnected Ecosystems

The One Health framework provides an integrated approach to address AFR based on environmental factors, transmission dynamics, surveillance, diagnostics, therapeutics, and potential interventions^{5,7}

Sustainable Agricultural Practices

By fostering collaboration among farmers, healthcare providers, researchers, and policymakers, One Health can develop sustainable agricultural practices that minimize fungicide reliance^{5,7}



Novel Antifungal Treatments

The One health framework emphasizes the need for novel antifungal treatments and prudent use of existing medications, along with therapeutic monitoring and proper antifungal stewardship^{5,7}

Global Policy Changes

Global policy changes and international cooperation can enable implementation of effective strategies to curb AFR, ensuring healthier ecosystems and reducing the burden of fungal diseases^{5,7}

The One Health framework promotes sustainable practices, reduces reliance on fungicides, and supports the development of novel antifungal therapies

References

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