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## Background:

- Globally more than 300 million people have serious fungal disease and about a billion people are estimated to have cutaneous mycosis<sup>1</sup>.
- Despite the life-threatening nature of many of fungal infections, appropriate diagnosis and treatment are limited in developing countries.
- The morbidity and mortality associated with fungal infections in Ethiopia is not known.
- Therefore, we assessed the annual burden in the whole population and among populations at risk.

## Methods:

- Data were extracted from 2011 reports of the Ethiopia World health status, AIDS program, reports, 2015 Ethiopian Education for all National Review Report<sup>2,3</sup>, and from a comprehensive PubMed search.
- We used modeling and HIV data to estimate the burdens of PCP, CM and candidiasis.
- Burdens of candidaemia and candida peritonitis were estimated from critical care and/ or cancer patients' data.

**Table 1. Estimated annual case load of some fungal infections in Ethiopia, 2018.**

Fungal infection	Predominant groups at risk	Rate per 100 000	Estimated number of cases
Cryptococcosis	AIDS	9.4	9,575
PCP	AIDS	13.6	13,838
IA	Haematological malignancy	0.65	664
CPA	Tuberculosis patients	18.2	18,568
ABPA	Asthma patients	29.5	30,090
SAFS	Asthma patients	38.9	39,719
Candidaemia	Immunocompromised patients	5.00	5,100
Candida peritonitis	Immunocompromised patients	0.75	765
Oral candidiasis	Immunocompromised patients	162	166,050
Oesophageal candidiasis	Immunocompromised patients	56.2	57,344
Recurrent vaginal candidiasis	Adult women	2798	1,426,988
Tinea capitis	>3 <15 years children with poor hygiene	6913	7,051,736

PCP, Pneumocystis jirovecii pneumonia; ABPA, allergic bronchopulmonary aspergillosis; IA, invasive aspergillosis; SAFS, severe asthma with fungal sensitisation; CPA, chronic pulmonary aspergillosis

## Discussion:

- This is the first attempt to estimate the burden of serious fungal infections in Ethiopia.
- More data are available on the HIV population and tinea capitis than on other groups of patients in country.
- HIV fungal opportunistic infections contribute to 4% of the total fungal infections however significantly contributes most of deaths due to fungal infections in the country.

## Conclusions:

- Around 9% of Ethiopians suffer from fungal infections annually, mostly school children with tinea capitis. Cryptococcosis and PCP are the major causes of mycoses-related deaths.
- Upgrading mycosis diagnosis capacity and national surveillance of fungal infections is urgently needed.

## References:

1. Bongomin F, et al. (2017) Global and Multi-National Prevalence of Fungal Diseases—Estimate Precision. J Fungi 2017, 3, 57
2. Ethiopia National Education Profile 2014 Update.
3. Education for All 2015 National Review Report: Ethiopia.

