

P2242 The burden of serious fungal infections in KyrgyzstanAli Osmanov¹, Gulnura Turdumambetova², David W. Denning^{*3,1}¹ The Global Action Fund for Fungal Infections, Genève, Switzerland, ² Department of Phthisiology, Kyrgyz State Medical Academy, Bishkek, Kyrgyzstan, ³ The University of Manchester, Manchester, United Kingdom

Background: Kyrgyzstan is the country in Middle Asia with a population of 6 million people with the highest in the world mortality rates for chronic lung diseases. Mountain geography, widespread use of biomass fuels for cooking and indoor heating, and high rates of smoking are the major contributing factors. We have estimated the number of serious fungal infections in order to define the burden of these diseases in Kyrgyzstan.

Materials/methods: Published results on serious fungal infection in Kyrgyzstan were identified. Where no data exist, we have estimated the burden of serious fungal infections based on underline conditions using the model proposed by LIFE (Leading International Fungal Education).

Results: We have estimated 1,207 cases of chronic pulmonary aspergillosis (CPA) as a sequel of TB; CPA occurs as a sequel of multiple conditions, so a total prevalence of 4,826 cases was estimated, perhaps the highest rate in the world. Assuming asthma prevalence of 1.47%, we have estimated 2,205 patients with ABPA and 2,911 with SAFS; there are 144 asthma deaths annually that provides us with an estimation of 101 deaths from fungal asthma. There are approximately 959 cases of invasive aspergillosis annually, 936 of them are in patients with COPD and 23 in immunocompromised patients. The number of adult (15-50 yrs.) women is 2,932,484 (48,9%). We have estimated that 175,949 Kyrgyz women get recurrent vulvovaginal candidiasis (4 or more episodes annually). There are 7,600 HIV positive patients in Kyrgyzstan, 4,636 (61%) not receiving antiretroviral therapy, so an estimated 4,177 cases of oral and 1,076 cases of oesophageal candidiasis annually. Assuming prevalence of Cryptococcal antigenemia being 1.90% we have estimated 13 cases of cryptococcal meningitis annually; an annual incidence of PCP is estimated at 99 cases annually. The incidence of candidemia was estimated at 300 cases using the low European rate of 5/100,000. We were not able to estimate a burden of candida peritonitis in patients on continuous peritoneal dialysis, mucormycosis, fungal keratitis, and tinea capitis.

Conclusions: We have estimated a total of 192,561 people (3.2% of the population) with serious fungal infection in Kyrgyzstan – diagnostic improvements are necessary given this burden.

Infection	Number of infections per underlying disorder per year					Rate/100K	Total burden
	None	HIV/AIDS	Respiratory	Cancer/Tx	ICU		
Oesophageal candidiasis	-	1,076	-	-	-	17.9	1,076
Oral candidiasis	-	4,530	-	-	-	69.6	4,177
Candidemia	-	-	-	210	90	5.0	300
Candida peritonitis	-	-	-	-	342	0.8	342
Recurrent vaginal candidiasis (4x/year +)	175,949	-	-	-	-	5,865	175,949
ABPA	-	-	2,205	-	-	36.8	2,205
SAFS	-	-	2,911	-	-	48.5	2,911
Fungal asthma deaths	-	-	101	-	-	1.7	101
Chronic pulmonary aspergillosis	-	-	4,826	-	-	260.4	4,826
Invasive aspergillosis	-	-	-	23	936	15.7	959
Cryptococcal meningitis	-	13	-	-	-	0.2	13
Pneumocystis pneumonia	-	99	-	-	-	1.7	99
Fungal keratitis	?	-	-	-	-	?	?
Tinea capitis	?	-	-	-	-	?	?
Total burden estimated	175,949	5,718	9,942	234	1,368		192,561

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