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Paper Poster Session

Fungal infection epidemiology

Estimating serious fungal infections in the Peruvian population

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Background: The improvement of healthcare services has increased the survival time and the size of the population at risk for fungal infections worldwide. In addition, Peru has endemic areas for histoplasmosis and paracoccidioidomycosis in the jungle, and a hyperendemic area for sporotrichosis in the highlands. Epidemiological data about mycotic diseases is limited in Peru, existing only data from small and not generalizable evaluations.

Material/methods: Demographic data was obtained from the National Institute of Statistics and Informatics' reports, while HIV/AIDS and TB figures were obtained from the different MOH's technical offices and UNAIDS publications. We also searched the bibliography for Peruvian data on mycotic diseases, asthma, COPD, cancer and transplants. When this information was not available, it was estimated using figures for incidence or prevalence in specific Peruvian populations at risk or data from comparable populations (closest neighbour country). Each estimated fungal rate was applied to their respective population at risk to obtain a number of cases for a particular fungal disease.

Results: The estimated Peruvian population for 2015 was 31,151,543; of them 8,722,432 were under 15, 11,280,484 older than 35, 3,115,154 older than 60 years, and 8,310,107 were women 15-50 years. For the year 2014, the estimated number of Peruvians living with HIV/AIDS was 88,625 and the number of pulmonary TB cases was 22,027. The Table 1 displays the estimated figures for the more frequent fungal diseases. A total of 628,617 cases were estimated, including 234 candida peritonitis, 156 cryptococcosis, 100 sporotrichosis, 50 histoplasmosis and 6 mucormycosis cases, not displayed in the table.

Conclusions: This is the first attempt to assess the fungal burden in Peru, excluding dermatophytosis, which needs to be refined by the use of improved measures of fungal diseases and of populations at risk. We believe the figure obtained (2% of the population) underestimates the real number of cases, because: i) underdiagnosis of mycotic diseases due to inadequate access to health services and limited sensitivity of diagnostic tests, which is particularly important in Peruvian endemic areas in the jungle and the highlands, and ii) underreporting of cases because lack of a surveillance system. In addition, the need to rely on limited published information, not always locally produced, introduced an important level of inaccuracy.

Infection	Subpopulation				Total burden	Rate/100,000
	None	HIV/AIDS	Respiratory	Cancer/Tx/Imm*		

Oral/Oesophageal candidiasis		39154		39,154	126
Recurrent candida vaginitis		498,606		498,606	3,201
Candidemia			1,090	467	1,557
Allergic bronchopulmonary aspergillosis			34,802		34,802
Severe asthma with fungal sensitisation			45,939		45,939
Chronic pulmonary aspergillosis			5,134		5,134
Invasive aspergillosis			249	1,183	1,432
<i>P. jirovecii</i> pneumonia		1,447		1,447	4.6

Table 1: Cases per year of more frequent mycotic diseases