

April 26-27, 2018
Rome, ItalyEphrem T. et al., J Transm Dis Immun 2018 Volume 2
DOI: 10.21767/2573-0320-C1-002

FUNGAL PROFILE OF LOWER RESPIRATORY TRACT INFECTIONS AND DRUG SUSCEPTIBILITY PATTERN AMONG PEOPLE LIVING WITH HIV IN ADDIS ABABA, ETHIOPIA

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Background: Lower respiratory tract fungal infections are the most common cause of clinical manifestations among People Living with HIV (PLWHIV) and their impact is well documented. However, there is little information regarding the profile and drug susceptibility pattern of these pathogens. Thus, the aim of this study was to determine the profile of lower respiratory tract fungal pathogens and their drug susceptibility pattern among PLWHIV in Ethiopia.

Methodology: A cross-sectional study was conducted in St Paul's hospital millennium medical college, Addis Ababa. We enrolled a total of 142 adult PLWHIV, with symptoms of lower respiratory tract infections consecutively. We used a structured questioner to collect socio-demographic variables and clinical data of the participants. One early morning sputum was collected for fungal culture and antimicrobial susceptibility testing. Four millilitre whole blood was also collected for CD4+ T cell count. Data was analyzed by IBM SPSS version 22.0. We used descriptive statistics to describe the profile and drug susceptibility pattern of fungal pathogens. We also used Pearson Chi-square test to compare groups, and multiple logistic regression model was employed to determine factors associated with fungal infections.

Results: Of total participants 62% were females and the average age was 39.8(+10.35) years with range 16 to 75 years. The overall fungal pathogens isolated were 32.4%, and *Aspergillus* species were the most frequently (11.3%) isolated pathogen. CD4+ T cell count (AOR = 1.02; 95% CI, (1.01 – 1.03)) and WHO HIV clinical stages (AOR = 6.1; 95% CI, (5.9 – 8.01)) were significantly associated with fungal infection. *Candida* species were susceptible to all antifungal agents; however *Candida krusei* was resistant to Fluconazole.

Conclusion: The overall magnitudes of fungal pathogens isolated were considerable. *Aspergillus* species was the most frequently isolated fungal pathogen. CD4+ T cell count and WHO HIV clinical stages were significantly associated with fungal infection. Fungal pathogen screening among PLWHIV with symptoms of lower respiratory tract infections is crucial, while targeting individuals with low CD4+ T cell count and at advanced WHO HIV clinical stages.

Keywords— Lower Respiratory Tract Infections, fungi, Drug susceptibility pattern, Human Immunodeficiency Virus.

Biography

Ephrem have completed his BSc at the age of 21 years from Haramaya University and MSc from Addis Ababa University College of Health Sciences. He is the head of National TB Reference Laboratory and TB research team at the Ethiopian Public Health Institute. He has published more than 5 papers in reputed journals in collaboration with other researchers.

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