

**BACTERIAL ETIOLOGICAL AGENTS OF LOWER RESPIRATORY TRACT
INFECTION AMONG HIV/AIDS PATIENTS**

A

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ABSTRACT

In Human Immunodeficiency Virus infected patients, bacterial lower respiratory tract infections (LRTI) are the most frequent respiratory diseases. This study was conducted to determine the bacterial etiology of LRTI in HIV/AIDS patients as well as update various antimicrobial alternatives available in the treatment. The study included sputum specimens from patients with or without complaints of LRTI. Gram staining, ZiehlNeelsen staining and sputum culture were performed. Antibiotics resistant pattern was also examined by Kirby-Bauer's disc diffusion method.

Among 121 patients, 39.7% were growth positive whereas 60.3% growth negative. The study showed females had more LRTI (54.3%) than male (51.2%). It also revealed older age group, smoking habit and lower CD4+cell count are the risk factors for LRTI. Similarly, patients under Anti-Retroviral Therapy (ART) had lower LRTI. From 48 cultures positive cases, Gram positive bacteria and Gram negative bacteria were found to be 39.6% and 60.4% respectively. In addition 15.7% of cases had infection with Acid Fast Bacilli (AFB). The present study showed higher prevalence of gram-negative bacteria (60.4%) compared to gram-positive bacteria (39.6%). *K. pneumoniae*(27.0%)was the most prevalent gram-negative bacteria whereas *S. aureus* (20.8%) was the most predominant gram-positive bacteria.

Antibiotic mostly resisted by Gram positive bacteria was Co-trimoxazole (68.4%) and Penicillin (68.4%) followed by Amoxicillin (47.4%), Chloramphenicol (42.1%), Ciprofloxacin (36.8%), Oxacillin (36.8%) and Azithromycin (31.6%). Likewise, Gram-negative bacteria was found to be mostly resistant to Amoxicillin (79.3%) followed by Co-trimoxazole (62.1%), Gentamycin (62.0%), Ciprofloxacin (55.2%),Ofloxacin (51.7%), Ceftriaxone (51.7%) and Azithromycin (48.3%).

Keywords:HIV/AIDS,LRTI, CD4+ cell count, ART,AFB, Antibiotics, Bacterial etiology.

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LIST OF ABBREVIATIONS

AFB	Acid Fast Bcilli
AIDS	Acquired immunodeficiency Syndrome
ART	Antiretroviral Therapy
BCG	Bacilli Calmette-Gurerine
CD	Cluster of Differentiation
CDC	Centre for Disease Control and Prevention
gp	Glycoprotein
GNB	Gram Negative Bacteria
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency virus
HTLV	Human T-cell Lymphotropic Virus
LAV	Lymphadenopathy Associated Virus
LRTI	Lower Respiratory Tract Infection
MAC	<i>Mycobacterium-avium</i> Complex
MSM	Men having Sex with Men
NCASC	National Center for AIDS and STD Control
NPHL	National Public Health Laboratory
NTC	National Tuberculosis Center
OIs	Opportunistic Infections
PCP	<i>Pneumocystis carinii</i> Pneumonia
PLHIV	People living with HIV
PPD	Purified Protein Derivative
RTI	Respiratory Tract Infection
SIV	Simian Immunodeficiency Virus
WHO	World Health organization
ZN	Zehl-Neelson