**Objectives**:

Candidemia is an emerging health problem in with high mortality rates (30-50%) despite appropriate treatment. In recent decades, the epidemiology of Candida infections has evolved, with a gradual shift from the dominance of *Candida albicans* to an increasing prevalence of Non-*albicans* *Candida* species (NAC spp). Factors attributable are increased use of antifungal drugs and invasive devices, extremes of age, immunocompromised status of patients and even improved fungal diagnostics. Resistance to antifungals coupled with their host’s immune evasion capability is a major concern emphasizing the importance of their speciation and antifungal susceptibility testing. The objective of this study was to assess the prevalence and epidemiology of Candidemia in blood stream infection and further analyze four different enzymatic activities of NAC spp obtained from bloodstream infections and their anti-fungal susceptibility pattern.

**Material & Methods:**

This is a retrospective study of fungemia due to NAC spp cases admitted from July 2015 to June 2018 to a tertiary care hospital in India. Yeast like cells seen on gram stain of positively flagged blood cultures were identified to the species level. The isolated NAC spp were evaluated for enzymatic activity of phospholipase, proteinase, hemolysin and esterase alongwith their antifungal susceptibility profile to voriconazole, fluconazole, amphotericin B and caspofungin.

**Results**:

A total of 119 *Candida* spp were isolated from blood during the study duration. The various isolates were *C. albicans* (11, 9.24%), *C. tropicalis* (29, 24.37%), *C. krusei* (11, 9.24%), *C. glabrata* (12, 10.08%), *C. parapsilosis* (18, 15.13%), *W. anomalus* (15, 12.61%), *K. ohmeri* (08, 6.72%), *C. lusitaniae* (5, 4.2%), *C. rugosa* (3, 2.52%), *C. auris* (2, 1.68%) and one isolate each of *C. famata*, *C. fabiani*, *C. keyfr*, *P. farinosa* and *C. utilis*. Among the 108 NAC spp, strong activity for phospholipase, proteinase, hemolysin and esterase activity was recorded in 43.5%, 68.6%, 62% and 20.4% isolates respectively. Resistance patterns showed *C. tropicalis* having the highest resistance to fluconazole and voriconazole. Sensitivity across NAC spp was preserved for caspofungin and amphotericin B.

**Conclusions**:

The study highlights that NAC fungemia is an emerging problem. Understanding species distribution and resistance mechanisms is essential for a robustly implemented antifungal stewardship program. Moreover, it underscores the importance of being vigilant about predisposing factors, stringent infection prevention and routine local surveillance and epidemiological studies to monitor antifungal resistance that can help optimize antifungal therapies and prevent emergence of resistance.