Candida is one of the frequently encountered fungal opportunists and are associated with infections of human being. Increasing infection rate has become an alarming subject of study. Candida species are found as a normal flora in intact skin of human being and the colonization is the first step of causing infection in immunosuppressive patients, neonates, older age, hospitalized patients and associated with increase in cost of the management. The aim of present study was based on the epidemiological picture of Candida albicans and non-albicans Candida encountered in different infections including HIV/AIDS and the susceptibility pattern. There was no literature-evidence of carrying out the study in Barak Valley. The lower socioeconomic condition, lack of awareness on hygiene, seasonal temperature and humidity of this geographical area also contributed much to the significant association of Candida species causing infection. There was increase in trend of infection with non-albicans Candida over Candida albicans. The epidemiological data from Indian subcontinent has shown that non-albicans Candida species were involved in hospital acquired Candidiasis. Different clinical samples were collected in sterile leak proof container from the patients with suspected patient of Candidiasis. Out of 500 different samples, 113 were found microscopically as well as culture positive and carried out for further identification. Cultures were done in Sabouraud’s Dextrose Agar (SDA) medium with antibiotics and also in blood agar. Lactophenol cotton blue mount, gram stain, germ tube test and biochemical tests were carried out for confirmation of Candida species. Dalmu plate culture was carried out on Cornmeal Tween80 for chlamydospore and
blastospore formation. Antifungal susceptibility test was carried out by Kirby-Bauer disc diffusion method on Mueller-Hinton agar supplemented with 2% glucose and 0.5 µg/ml methylene blue dye with amphotericinB, fluconazole, voriconazole and itraconazole disc.

Although *C. albicans* remained the sole cause of infection but infection with *non-albicans Candida species* were now emerging due to the variable susceptibility pattern, the selection of appropriate empirical therapy has become difficult. In this study *C. glabrata* followed by *C. tropicalis* were found as predominant *non-albicans Candida species* and are found to be emerging cause of nosocomial infection. *C. glabrata, C. parapsilosis* and *C. tropicalis* are more common species found on the hands of health care workers and are associated with nosocomial infection. The prevalence of *non-albicans Candida* were also found in the patients with HIV positive. *C. tropicalis* was observed in maximum number followed by *C. parapsilosis* in HIV positive individuals. In the present study frequency of different *Candida species* in HIV positive patients shows indistinguishable distribution with the non HIV positive populations, suggesting that infection with *Candida sp.* in HIV positive may be because of the defects due to the host defenses.

The data was analyzed by SPSS version 17.0. The prevalence of *non-albicans Candida* was found to be significant over *C. albicans* (P = 0.086) at ten percent level of significance. The correlation test was also significant (P = 0.003) at five percent level of significance. It was observed from Table 8, that the incidence of candidiasis is more among females compared to males, but by statistical analysis incidence of *Candida species* distribution was found independent of sex ($\chi^2 = 0.141$
and the critical value $\chi^2 = 3.84$ at five percent level of significance with one degree of freedom.

Antifungal susceptibility testing is still an unexploited method in many Indian routine clinical microbiology laboratories. This study also given a focus on the use of antifungal disc in routine clinical laboratory. The simplicity and flexibility of disc diffusion is very appealing method to introduce in the work flow of routine microbiological laboratories; on the other hand which can contribute a useful aid in treatment. Although fluconazole considered as first line antifungal drug, there is significant increase in resistance against fluconazole. Fluconazole resistance also found in those isolates of *Candida sp.* which were isolated from HIV positive individual. Colonization of resistant strains of *Candida species* in the oral cavity may cause serious therapeutic problem in the patients having depressed immunity or HIV infection. The use of broad spectrum antibiotics, longer stays in ICU, diabetes, older age, pregnancy were the risk factors associated with the *Candida* infection. Colonization of *Candida sp.* at any body sites of surgical or burn patients, immunosuppressive patients has high risk of Candidemia. The early therapy or prophylactic intervention with antifungal drugs although reduce the risk of invasive candidiasis but may encourage the proliferation of treatment-resistant *Candida species* and may further challenge the effective management of nosocomial invasive candidiasis. Rapid identification at species level from different suspected clinical samples can save the patient from extra burden of cost and adverse side effect of drugs. This study therefore emphasized the need of fungal culture and susceptibility test and the periodic surveillance which can provide essential aid in the treatment of Candidiasis.