

Antimicrobial activity of piper betel against *Candida albicans* and its effects on adherence to denture acrylic surfaces

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Piper betel is an important medicinal plant with its medicinal properties extending to antimicrobial activity against several pathogenic fungi and bacteria. The objective of this study was to evaluate the efficacy of Piper betel leaf extract against *Candida albicans* adhesion and its biofilm formation on denture acrylics. Young betel leaves (1st-3rd leaf) were subjected to vacuum infiltration with ethanol. Anticandidal activity of a range of concentrations of the leaf extract (5000 - 10000 ppm) was assessed against *C. albicans* (ATCC 90028) and seven laboratory isolates using the agar well bioassay. Further, using a standard biofilm adhesion assay technique, the same concentrations were used to test their ability to suppress the adhesion of *C. albicans* on denture acrylics, as compared to a commercial denture cleanser (positive control), and sterile distilled water (negative control). The results indicated that sterile distilled water had the highest adhesion (23.75±5.3 cells per unit area) while both, the leaf extract of concentrations of 8000 - 10000 ppm and the commercial denture cleanser showed significant ($p < 0.05$) suppression of *C. albicans* adhesion on denture acrylics (less than 1 cell per unit area). There was no significant difference between adhesion in an 8000 ppm concentration extract of P. betel and the commercial denture cleanser of equal concentration, indicating that betel leaf extract is as efficient as the commercial denture cleanser, in suppressing the adhesion and biofilm formation of *C. albicans* on denture acrylic surfaces.