Identification and Antimicrobial Susceptibility of Microorganisms Isolated From Toothbrush
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Purpose of study: Toothbrush can be heavily contaminated after usage. Thus, in this laboratory experimental study, the objective was to compare the presence of microorganisms isolated from toothbrush of the elderly wearing complete dentures and the elderly non-denture wearers. Second objective is to investigate the antimicrobial susceptibility of the identified microorganisms.

Material and methods: 20 new toothbrushes were given to 10 elderly with complete dentures and 10 to elderly without dentures from The Old Folks Home in Jalan Gasing, Petaling Jaya. They were asked to brush their teeth twice per day for a month. The study comprised of microbiological identification and antimicrobial susceptibility test using Kirby Bauer disc diffusion methods. Ampicillin, penicillin, polymyxin-B, sulfonamide, kanamycin and nalidix acid were used in antimicrobial sensitivity test. Meanwhile, in antifungal test, fluconazole, miconazole, amphotericin B, clorimazole and nystatin were used.

Results: 7 different species of microorganisms were identified from both groups. There are *Leuconostoc* sp, *Aerococcus* sp, *Lactobacillus* sp, *Staphylococcus* sp, *Pseudomonas* sp, *Enterococcus* sp and *Candida* sp. *Candida* sp were found to be 48% in complete denture wearers and were also predominant on toothbrushes of non-denture wearers. Majority of microorganisms were sensitive to polymyxin B, sulphonamide, kanamycin and ampicillin. In antifungal test, *Candida* sp were susceptible to Amphotericin B, Miconazole, Fluconazole, Nystatin and Clotrimazoles.

Conclusion: It can be concluded that toothbrush is heavily contaminated after usage. *Candida* sp predominate on toothbrushes of both groups and all the isolated microorganisms were susceptible to the antimicrobial therapy.