

Prosthodontics & Orthodontics

March 10th, 2022 | Webinar

Plant-based Compounds for Maintenance of Oral Biofilms

Oral biofilm or dental plaque is a localised concentration of bacteria embedded in a soft matrix that covers the tooth surface. At the early phase of formation, it comprised of salivary components which serves important role as binding receptors for pioneer oral bacteria. Assisted by electrostatic and hydrophobic interactions between these microbes and saliva-coated tooth surface, the adhering cells grow, generates energy through metabolism and multiply, eventually forming ecosystem of the oral cavity. Predominancy of microbes within this ecosystem has been shown to be affected in response to diet, antibiotic treatment and also to aging, as surfaces of teeth for bacterial adherence gradually reduces. It is shown that the candidal species increasingly predominate in oral cavity of the elderly adults. Common oral diseases associated with biofilm includes dental caries and periodontal diseases. Effective biofilm control strategies forms the basic principle in the prevention of these diseases. Many chemical-based dentifrices and mouth rinses are widely used for the maintenance of oral health. However, though effective, there has been concern on their side effects. We have shown that compounds from several plants are effective in reducing the formation of oral biofilm. Many exhibited bacteriostatic effect on biofilm microbes rather than bactericidal like chlorhexidine. The targets of these compounds were suggested more towards inhibiting bacterial adhesion and suppression of cell growth activities at various phases of biofilm formation. In other words, by preventing or limiting bacterial adhesion and their subsequent growth on the tooth surface, the severity of biofilm-associated diseases can be minimised.



Fathilah Abdul Razak

Faculty of Dentistry, University of Malaya,
50603 Kuala Lumpur, Malaysia

Biography

Dr Fathilah was awarded PhD by the University of Malaya in 2005 in the area of Oral Biology. Her research passion revolves around the oral ecosystem and interactions between various components of the oral environment. Currently she is the Head of the Oral & Craniofacial Sciences Department that focuses on bridging knowledge of basic medical sciences with the dental curriculum. She has published numerous articles and is actively involved in reviewing scientific manuscripts for various journal publications.