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عنوان مقاله:

The effect of nanochitosans particles on Candida biofilm formation

محل انتشار:

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خلاصه مقاله:

Background and Purpose: In people wearing dentures, the growth of various Candida species under the prosthesis leads to the formation of biofilm, which can play the role of a reservoir for Candida and other kinds of microbes. Since nano-chitosan particles can cause lasting antimicrobial activity, a more recent approach that utilizes acrylic resins with nano-chitosan particles is proposed. Therefore, we aimed to study the inhibitory effect of nano-chitosan particles on the biofilm formation of Candida species in acrylic resins. Materials and Methods: In this analytical in-vitro study, acrylic resins with nano-chitosan particles with concentrations of ۰, ۱%, ۵%, and ۱۰% were put adjacent to the suspension of Candida cells isolated from the individuals' mouth and biofilm formation on resins was measured and compared. Finally, the data were analyzed using Kruskal-Wallis and Chi-square tests. Results:The observed differences between unmodified acrylic resin (control) and acrylic resin with nano-chitosan particles in terms of biofilm formation were significant (p <۰.۰۵), but no significant difference was found in the formation of biofilm species on resins. Conclusion: Biofilm formation of Candida species depends on acrylic resin type, in a way that by adding nano-chitosan particles to acrylic resins, biofilm formation of Candida species was significantly reduced. To decrease the organization of biofilm and denture stomatitis, the use of acrylics with nano-chitosan particles in producing dentures is recommended.

کلمات کلیدی:

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