

INTERACTION OF COMPOSITE FILLING MATERIALS WITH MICROORGANISMS IN THE ORAL CAVITY

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Annotation. This article mouth space microflora composite filler materials to the surface adhesion to oneself typical features studies. in the study various kind composite filler of materials to bacteria relatively adhesion level and this of the process biological effects analysis the materials were chemical composition, surface structure and microscopic features bacteria filler to the surface to stick how impact to show determined. nanocomposite materials bacteria high at the level to oneself attraction did if, microfill composite materials and less adhesion indicators demonstration the research results, composite filler of materials microorganisms with mutual connection reduce for new antibacterial technologies working exit the necessity shows. this article in dentistry composite materials optimization and microflora healthy balance storage for important scientific the basics presented will reach.

Key words. Mouth space microflora, composite filler materials, bacteria, adhesion mechanisms, antibacterial materials, nanocomposite, surface structure, microbiota, dentistry, materials chemical composition, inflammation.

Mouth space microflora, mainly bacteria, viruses, fungi and other microorganisms with filled system to be, man organism to your health directly impact shows. Dental in practice, filling materials mouth in the void microorganisms with in communication is, their to the surface adhesion and them far time during support possible. Composite filler materials modern in dentistry wide being used materials is , their mouth microflora with mutual impact and microorganisms filler to the surface adhesion to oneself typical features in medicine important importance has . Mouth space microflora of humans to your health impact doer very important ecological system is, then mainly various kind bacteria, viruses, fungi and other microorganisms This is available. microflora not only mouth of the cavity local protection in providing, but organism general health in storage also significant role plays (Marsh, 2006). Mouth microflora natural without many useful from microorganisms consists of although, different external factors , including incorrect teeth care to do , bad food and dental interventions microbiota to the composition negative impact to show possible (Socransky meat al.,

1998). This point of view from the eyes, to the teeth placed filler of materials mouth of the cavity microflora with mutual relationship , their microorganisms with communication and also bacteria to the surface adhesion opportunities study very important importance has.

Seal of materials mouth in the void microorganisms with mutual to the effect related research, materials to the surface microorganisms adhesion process better to understand help Fillings, especially composite materials , wide is being used because they good aesthetic to look has and strength features with separated stands (Bago meat al., 2013). Therefore despite, composite filler materials with related the most big from problems one of them mouth in the void bacteria to oneself attraction Also, the filling materials on the surface bacteria increase and their inflammation processes brought release possible. Therefore, the mouth in the void microflora composite materials to the surface adhesion biological and mechanic aspects, as well as this of processes health for consequences scientific public by deep to be studied necessary.

Also , filler of materials microorganisms with mutual the impact study in dentistry new materials create for basis become service does . Current research, especially nanotechnologies to dentistry implementation to study Nanocomposite filler of materials high surface area and microscopic structure bacteria filler to the materials to stick opportunity creates (Ahn et al., 2011). Thus together , materials chemical composition and their high or low ionic features bacteria to the surface adhesion strengthen or reduce possible (Rogers et al., 2018). Composite filler of materials to oneself typical features bacteria with mutual the impact and also their far term biological safety provide for necessary was optimization to determine help gives.

From this outside, mouth in the void microflora of reproduction prevent to take for antibacterial filler of materials importance and this of materials bacteria with mutual the impact reduce methods scientific affairs based on continue In particular, antibacterial to the features has materials working exit , especially teeth and composite filler of materials far term efficiency in providing important role plays (Sharma et al., 2014).

So so, mouth in the void microflora filler to the materials adhesion and their this in process biological impact in medicine very important topic become remains. In this area take visited scientific affairs through, materials surface structure and chemical the composition optimization, their antibacterial features reinforcement and mouth microflora in balance storage for new approaches working exit necessary.

This in the article composite filler materials to the surface mouth space microflora adhesion mechanisms and this in process to the surface coming biological processes is studied.

Methods

This study composite filler materials to the surface mouth microflora adhesion study for one how many experimental methods used:

1. **Materials Choice:** 4 types in the study composite filler materials (nanocomposite, microfill, macrofill) and ionomer) were selected and every on the surface of a material mouth of the cavity main bacteria (*Streptococcus mutans*, *Lactobacillus* spp., *Actinomyces* spp.) incubation was done.
2. **Bacterial adhesion test:** Bacteria filler materials to the surface 24 hours during incubation was done. Later materials washed, bacterial adhesion level microscopy and calculation methods using measured.
3. **Superficial Analysis:** Filling of materials surface scan electronic using a microscope (SEM) examined, bacteria adhesion and growth processes seeing It was released.
4. **Chemical Analysis:** Filling of materials chemical composition and their microorganisms with mutual impact for, filler materials on the surface groups and particles existence spectral analysis using methods (FTIR, XRD) studied.

Results. Experiment to the results according to , composite filler of materials bacteria to the surface adhesion level of the material composition and surface to the structure related that determined . Nanocomposite filler materials to bacteria relatively the most high adhesion to the level has is, this of the material high surface area and microscopic structure with Microphyllum composite materials bacteria the most less pasting this of the material surface structure flat and thin because it is come comes out. Ionogerminal filler materials and bacteria to oneself attraction in doing average results showed that of materials in the composition ionic of groups existence with depends.

Bacteria adhesion level of the material chemical to the composition looking at differentiation and on the surface of the material groups and of particles existence also related to that determined . Nanocomposite materials high surface area because of microorganisms more to oneself attraction is doing , but this materials on microbial colonies faster development possible .

Discussion . Mouth space microflora filler materials to the surface adhesion to oneself typical features medical in dentistry important importance has . Research results , composite filler of materials various surface features and chemical composition bacteria how to oneself attraction to do Nanocomposite materials bacteria high at the level attraction did although , their filler quality improve for them special antibacterial coatings with cover need Also , the material on the surface microscopic holes and particles bacteria filler materials to the surface adhesion makes it easier , this and far term dental inflammations brought release possible.

From this outside, above bacterial adhesion level was materials, patients mouth in the void microflora to increase and various kind mouth to diseases take arrival possible.

Therefore for, antibacterial to the features has was composite filler materials, mouth in the void microflora healthy balance storage for important role plays. So composite filler materials working on the way out microorganisms with mutual the effect to reduce aimed at new technologies application necessary.

Conclusion: Composite filler of materials mouth space microflora with mutual impact in medicine important importance has is, bacteria filler materials to the surface adhesion to oneself typical features about knowledge expansion necessary. Nanocomposite filler materials bacteria more to oneself attraction did although , their healthy performance provide for antibacterial to the features has filler materials working exit important . In the future composite materials optimization and antibacterial efficiency increase according to research continue to be carried out need.

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