

OC2: Experimental analysis of the influence of a plastic cap on the microbiological growth in toothbrushes

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Introduction: Although toothbrushes are considered essential for oral hygiene, they have also been considered a potential reservoir of microorganisms, eventually enabling their growth.

Objectives: The main goal of this study is to determine the influence of covering the toothbrush with a plastic cap on its microbiological development.

Materials and Methods: This study included 6 participants without serious dental health problems and that were not treated with antibiotics in the previous 3 months.

In the first part of the study (Phase 1), it was given a toothbrush to each one of the participants. Participants were told to daily brush their teeth 2-3 times and to store the toothbrush without cap. Phase 1 lasted for 22 days, and in days 0, 7 and 22 it was performed a microbiological collection from the toothbrushes into Petri dishes previously filled with nutrient agar. Following incubation, bacterial colonies were counted. In the second part of the study (Phase 2), toothbrushes were replaced by new ones to be stored with a plastic cap on its top and microbiological collections were performed in days 0, 7 and 22. The obtained results were statistically analyzed.

Results and Discussion: Comparing the average results in both phases, it was demonstrated that there is a tendency for a greater growth of microorganisms in toothbrushes with a cap. However, the differences were not statistically significant.

Conclusion: The use of a plastic cap on the toothbrush can be a risk factor for microbial growth. Further studies would be important to identify the contaminant microorganisms.

References

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