

Effects of Toothbrush Age on Clinical Oral Health Indicators

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ABOUT THE STUDY

The two most common oral disorders brought on by supra and subgingival plaque bacteria are dental caries and periodontal disease. Plaque removal on a regular basis needs to be consistent and efficient if dental health is to be maintained over the long run. The most popular and cost-effective mechanical tool for reducing personal plaque is still a manual toothbrush. Since toothbrushes are over-the-counter oral hygiene devices, people are confused about when to change their toothbrushes because there is no specific advice provided. The bristles of toothbrushes are known to experience substantial wear over time. Most dental practitioners agree that splayed and bent bristles are the primary sign of toothbrush wear [1].

However, there is little published evidence to support the impact of toothbrush wear on the ability to eliminate plaque. We are aware of very few researches that involved toothbrush use for longer than three months. There are conflicting suggestions for how often to replace toothbrushes, ranging from less than one month to more than six months, due to a lack of solid scientific data [2].

Additionally, there is a significant gap between the findings of recent studies on when to replace a toothbrush. Some research has typically questioned the link between the amount of time people use their toothbrushes and how effective they are. Other research, however, revealed that the effectiveness of old toothbrushes in removing plaque was inferior to that of new ones. Diverse objective methodologies, length of usage, markers used to measure results, and additional factors like frequency, brushing force, and brushing style can all be utilized to explain differences between researches. There is no connection between the periodontal and oral debris indices and the age of the toothbrush [3].

On the other hand, after 70 and 100 days, those long-term brush users exhibited higher Quigley and Hein plaque indices. The problem is that artificially worn toothbrushes aren't clinically relevant tools for measuring the effectiveness of plaque removal. Furthermore, some investigations that proved the loss of used

toothbrush effectiveness were conducted by artificially worn toothbrushes in the laboratory. It's crucial to remember that the length of time a person uses a toothbrush and the resulting decrease in effectiveness are not always recognized as significant clinical changes in oral health markers. The American Dental Association (ADA) defines a clinical criterion of toothbrush superiority as a minimum difference in plaque scores of 15%. Therefore, there is no precise clinical rationale for when to replace our toothbrushes [4].

It is impossible to draw conclusions on comprehensive and reliable evidence regarding toothbrush renewal periods because there hasn't been a systematic review of the studies up to this point. WHO stresses the accessibility of fluoridated toothpaste and toothbrushes, as well as other oral hygiene supplies. Considering that the cost of frequently replacing toothbrushes may not be appropriate, particularly in some developing nation's financial constraints and the additional cost of supplying oral hygiene products to underserved groups can be avoided by following evidence-based and precise recommendations for toothbrush replacement intervals. Recommendations for the replacement of toothbrushes will be defined more firmly with the aid of systematic reviews that summarise studies [5].

CONCLUSION

The majority of suggestions over various time periods that urged replacing a worn-out toothbrush are based on scant evidence. Additionally, it is not apparent whether the accompanying loss of effectiveness of a used toothbrush is regarded as a significant clinical threshold. So it appears that replacing our toothbrush frequently is not cost-effective. The initial inspiration for this study came from this. On the other hand, systematic reviews those summaries studies that have looked at the factors that influence how effective a worn toothbrush is still lacking. We set out to close this gap. In addition, we will evaluate the calibre of research on this subject. Two reviewers will choose the studies and retrieve the data, which is a major strength. For our search, we'll use three major electronic databases but won't use any restrictions concerning the time and location.

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