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Oral

The Development And Evaluation Of Water Irrigator For Plaque Removal

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Introduction: Patient undergoes orthodontic treatment with fixed appliances have more plaque retentive area compare to normal person. Therefore, this patient requires higher standard of oral hygiene care. One of adjunctive cleaning device for oral hygiene care is water irrigator. There are several types of water irrigator available in the market such as syringe type, electricity and battery operated. However, the problem is the available water irrigators are expensive. **Materials and Methods:** A prototype of water irrigator was designed and constructed in USIM. The water irrigator is faucet powered so that the pressure can be easily controlled by adjusting the tap. Four dental arches with orthodontics brackets were prepared using sets of natural teeth mounted on plaster of paris. Artificial plaque was prepared and grown on the dental arches. Plaque score was recorded based on Rustogi modification of navy plaque index (RMNPI) before and after irrigation with water irrigator. The procedure was repeated using toothbrush which act as control group. All the data were collected and analysed using SPSS version 22. **Results:** The initial mean plaque score for water irrigator was 6.34 and 2.54 after cleaning. While the initial mean plaque score for toothbrush was 6.04 and 3.71 after cleaning. This showed that there were significantly reduction of 60% and 39% plaque score after using water irrigator and tooth brushing respectively. **Conclusion(s):** In conclusion, both tooth brushing and the new water irrigator can significantly remove dental plaque accumulation on the tooth surface. However, water irrigator showed better results in removal of dental plaque accumulation.

KEYWORDS: water irrigator, oral hygiene, plaque