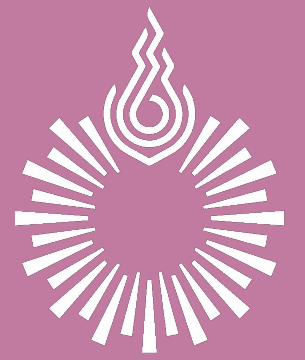


Development of Effervescent Plaque Disclosing Tablet:

An Alternative Formulation for Dental Plaque Disclosure



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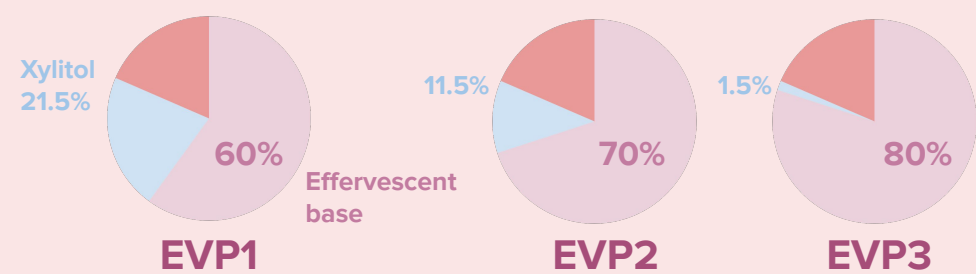
Introduction Plaque disclosing agents have been used in oral hygiene motivation and instruction to help visualize dental plaque biofilm. However, the disclosing agents used at present are difficult and inconvenient to use.

Objective Develop a novel formulation of erythrosine in the form of an effervescent tablet, which simple to use both in clinical settings and as a patient-care measure at home.

Materials & Methods

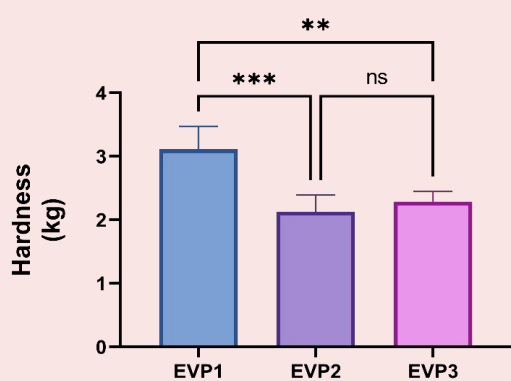


Effervescent plaque disclosing tablet (EVP) were formulated by varying percentages of effervescent base and xylitol, with constant amount of additives and erythrosine.

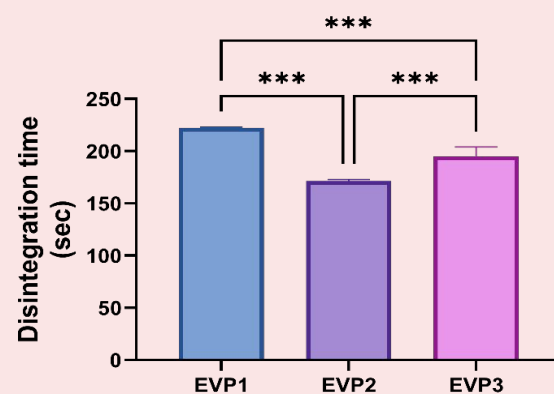


EVP1, 2, 3 were evaluated to find out the most favorable formulation such as dimensions, weight variation, friability, hardness, water intake, disintegration time, pH, flavor, and appearance.

Results EVP formulations were fabricated to achieve appropriate physical properties. The proper amount of xylitol in the formulation was found to increase tablet hardness, less friability, and reduce disintegration time. EVP2 exhibited the most favorable physical properties with rapid disintegration time (2.51 minutes)



Hardness of EVP formulations increased as a result of the addition of xylitol, which provided binder properties.



Xylitol contributed to a faster disintegration time of the tablet by attracting more water molecules, faster effervescent reaction.

Excessive xylitol quickly absorbed moisture from atmosphere and caused premature effervescent reaction, resulted in delayed disintegration time.

EVP formulation can complete an effervescent reaction with 3 ml of phosphate buffer solution pH 7.4. According to stimulated saliva flow rate of 1.5 - 2 ml/min, lemon tasted EVP should be able to use directly in oral cavity.

Conclusion A novel plaque disclosing agent in the form of an effervescent tablet was successfully developed with the potential for intraoral applications, would be beneficial in motivating oral hygiene, thereby contributing to the sustainable improvement of patients' oral health.

Researchers

PERIODONTICS

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