

Modification of Toothpaste Formula Using Pineapple Cobs and Eggshell Waste as a Way to Decrease Dental Caries

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Abstract : Data from many countries indicates that there is a marked increase of dental caries. The increases in caries appear to occur in lower socioeconomic groups. It is possible that the benefits of prevention of dental caries are not reaching these groups. However, there is a way to decrease dental caries by adding 5% of bromelain and calcium as an active agent in toothpaste. Bromelain can break glutamine-alanine bond and arginine-alanine bond which is a constituent of amino acid that causes dental plaque which is one of the factors of dental caries. Calcium help rebuilds the teeth by strengthening and repairing enamel. Bromelain can be found from the extraction of pineapple (*Ananas comosus*) cobs (88.86-94.22 % of bromelain recovery during extraction based on the enzyme unit) and calcium can be taken from eggshell (95% of dry eggshell consist of calcium). The aim of this experiment is to make a toothpaste which contains bromelain and calcium as an effective, cheap, and healthy way to decrease dental caries around the world.

Keywords : bromelain, calcium, dental caries, dental plaque, toothpaste

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