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Oral

Evaluation Of Calcium And Phosphorus Content In Virgin Coconut Oil, Coconut Milk And Coconut Water Using ICPMS- Assessment Of Remineralization Potential For Tooth Enamel

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Introduction: Dental decays happened due to demineralization of dental minerals because of oral acidic environment. The minerals that usually dissolved out from the enamel are calcium (Ca) and phosphorus (P). To ensure more Ca and P absorbed via remineralization, high Ca and P content in daily diet supply are required. In Malaysia, virgin coconut oil (VCO), coconut milk (CM) and coconut water (CW) are a few of many major diet component of daily diet. The aim for this study is to evaluate the Ca and P content of VCO, CM and CW. **Materials and Methods:** For these types of foods, Inductive Coupled Plasma-Mass Spectrometry (ICP-MS) is used in analyzing their Ca and P concentration. The samples undergone acid digestion (Method 3051a) using Teflon vessels under 150°C. Then, the samples were diluted and the readings are compared. Result:The VCO showed highest concentration of Ca (472.62 ppb) followed by CW (453.33 ppb) and CM (444.00 ppb). Whilst, CM showed the highest P concentration with 251.00 ppb and least P concentration from VCO (54.07 ppb). Comparing the concentration of the minerals altogether, although Ca concentration in CM is the least, it is still considered high. **Conclusion(s):** With supports of high concentration of P, CM displayed a promising potential of Ca and P supply to promote remineralization of enamel caries.

KEYWORDS: demineralization, remineralization, calcium, VCO