CONSUMER ACCEPTANCE OF CRUDE PALM OIL CONSUMPTION AND ITS CONSUMPTION INFLUENCE ON ANTIOXIDANT CAPACITY OF PLASMA AND ERYTHROCYTES IN SUB-DISTRICT OF DRAMAGA, BOGOR REGENCY

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ABSTRACT

Vitamin A deficiency is a common problem in the world especially in developing countries including Indonesia. A solution to overcome this problem is through food consumption diversification consisted of high vitamin A or pro-vitamin A. Indonesia has been the largest crude palm oil (CPO) producer in the world since 2006. CPO contains 500-700 ppm carotenoids compound functioning as pro-vitamin A, especially due to β-caroten content. SawitA program is a program to overcome vitamin A deficiency in Indonesia by using palm oil based product called sawitA. This program had been conducted for two months. During this program, the respondents were given free products. Crude palm oil also has potential function as antioxidant because of its carotenoids, tocopherol, and tocotrienol contents. This research is a part of SawitA program that focused on analyzing product acceptance, total plasma antioxidant capacity, and erythrocyte antioxidant capacity. Product acceptance analysis is done by home-used test method with 75 respondents in sub-district of Dramaga. Total plasma antioxidant capacity was done in 35 respondents and was analyzed by total antioxidant kit from SIGMA, meanwhile erythrocytes antioxidant capacity was analyzed by DPPH scavenged antioxidant activities method. The results showed that product was accepted 88-100% by respondents with “like” category toward taste, odor, color, and over all attributes after two weeks until two months consumption. The total plasma antioxidant capacity average increases from 0.2285±0.0644 mM to 0.3081±0.0317 mM/ after interventions. The erythrocytes antioxidant capacity average also increases from 35.16% to 46.36% after interventions. The results of t-test with 5% level of significance showed that it was significant (P=0.000) for total plasma antioxidant capacity and erythrocytes antioxidant capacity respectively. The increasing of this antioxidant capacity is estimated as the effect of antioxidant compounds activities in sawitA product such as carotenoids and vitamin E.

Keywords: Vitamin A, crude palm oil, carotenoids, antioxidant activity, product acceptance.