Antioxidant Activity of Robusta Coffee Drinks: Black Coffee Vs Coffee with Additives

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ABSTRACT

Polyphenols are antioxidants commonly found in daily food intake. In the drink category, one of the largest sources of polyphenols is coffee drinks. Robusta coffee drinks have been enjoyed most by Indonesians since this plant covered more than 90% of coffee plantation area in Indonesia. Based on Indonesian people’s daily habits, robusta coffee drinks are consumed variously as black coffee and with additives like sugar, creamer, and milk. This study aimed to assess the effect of that usual coffee consumption on the polyphenol content and antioxidant activity. Polyphenol content was determined using Folin-Ciocalteau reagent and antioxidant activity was evaluated using DPPH radical scavenging method. Black coffee, coffee with sugar, coffee with sugar and milk and coffee with sugar and creamer performed strong differences in either polyphenol content or antioxidant activity. Coffee with sugar and creamer had the biggest value in polyphenol content and antioxidant activity, 55.687 ± 0.231 mg GAE/g coffee grinds and IC50 54,449 ± 0.371 μg/ml, respectively. It was shown that various robusta coffee drinks might give the different content of polyphenol and antioxidant activity depended on their composition, with or no additives.

Keywords: robusta, coffee drinks, polyphenol, antioxidant activity